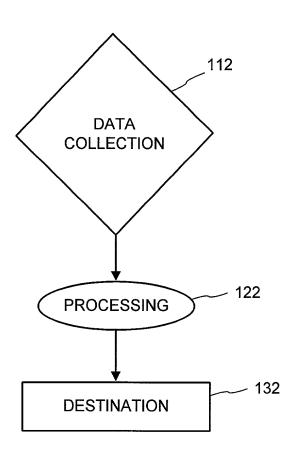
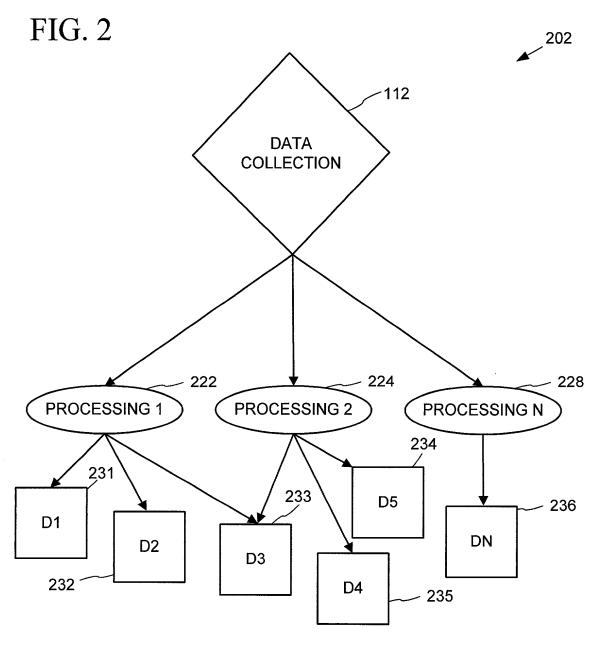
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 1 of 103

FIG. 1 102



There are not been been been been in the F1 1 The street days then the street state of the street street



The dreet dreet story grow

S

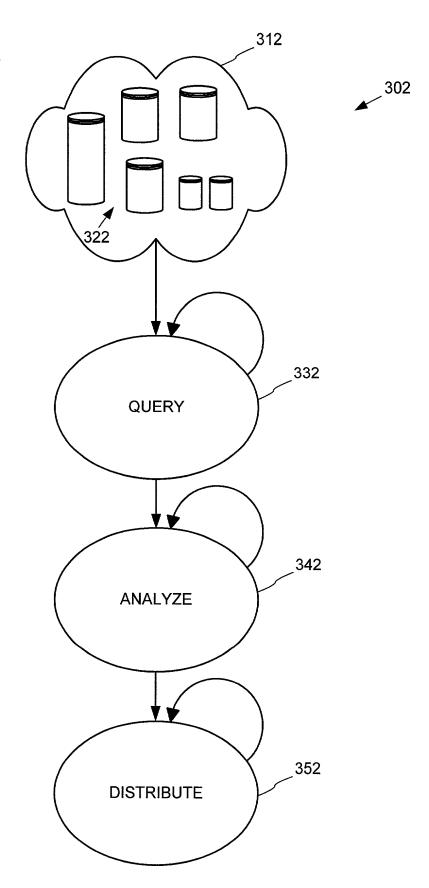
Maria Aller Mente sperie serre



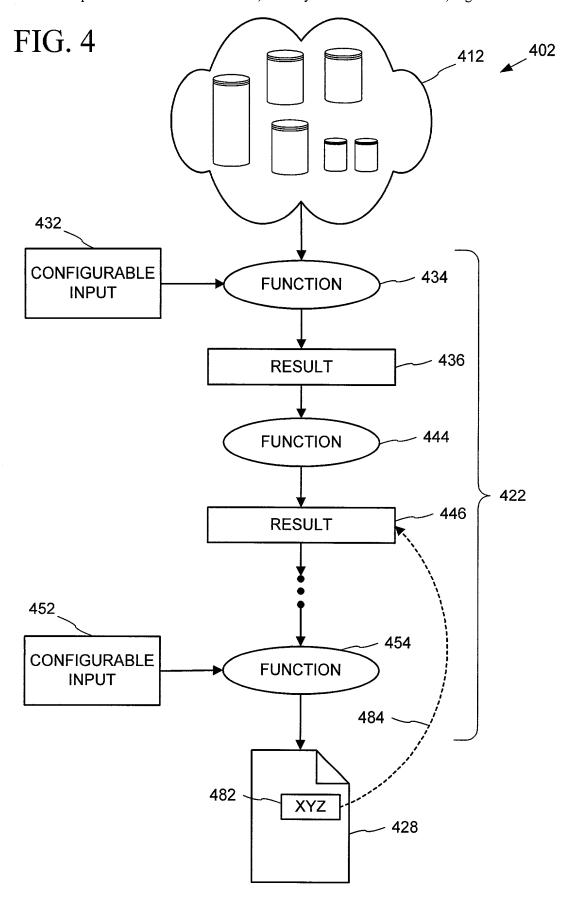
There are the first that

The state of

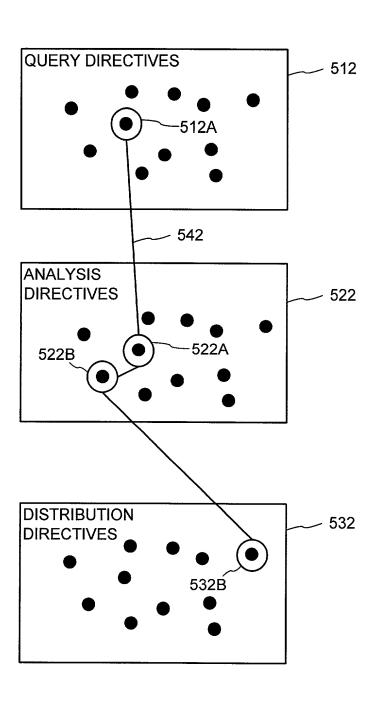
the holy deal of the species and

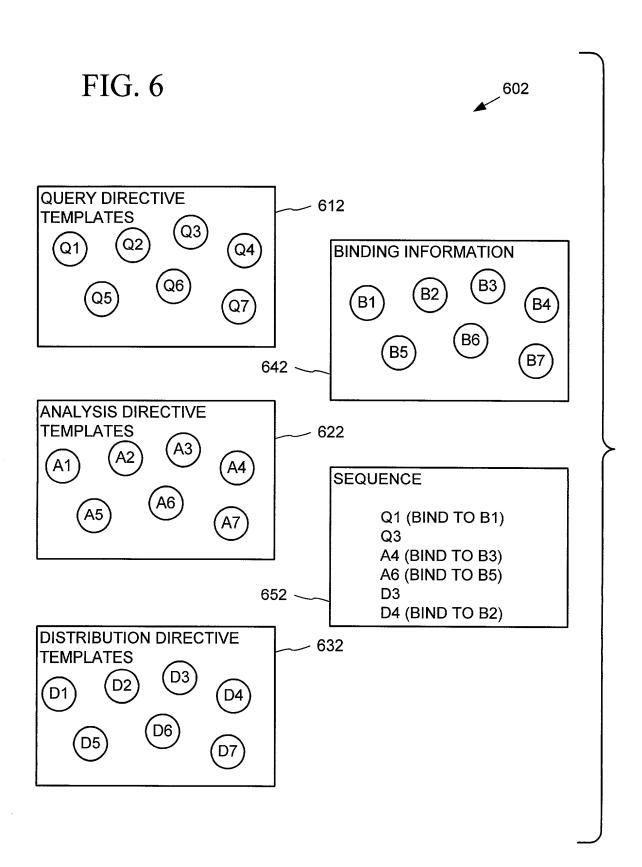


Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 4 of 103

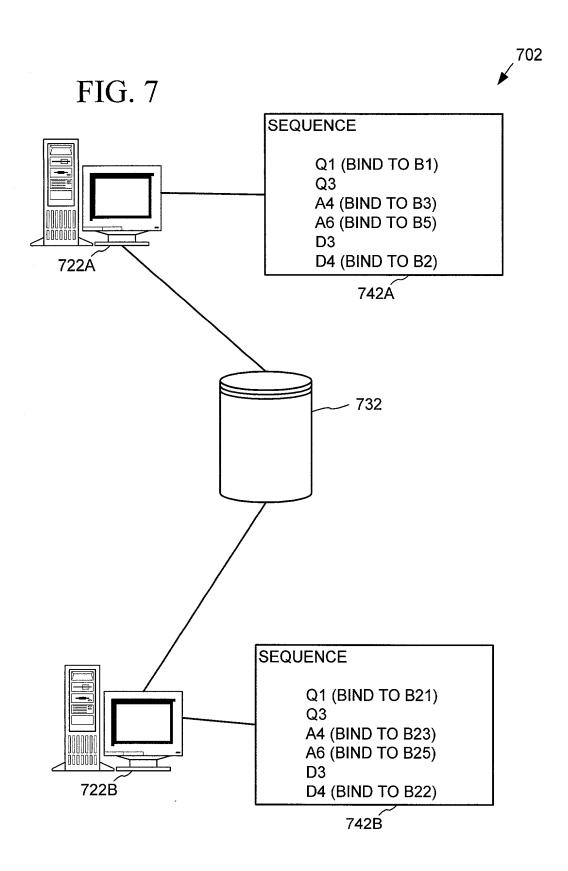


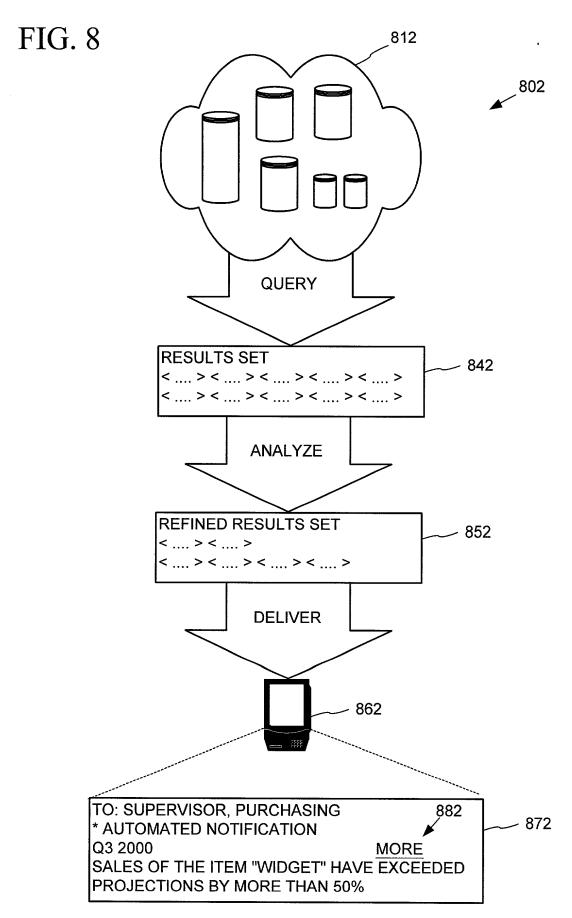






Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 7 of 103

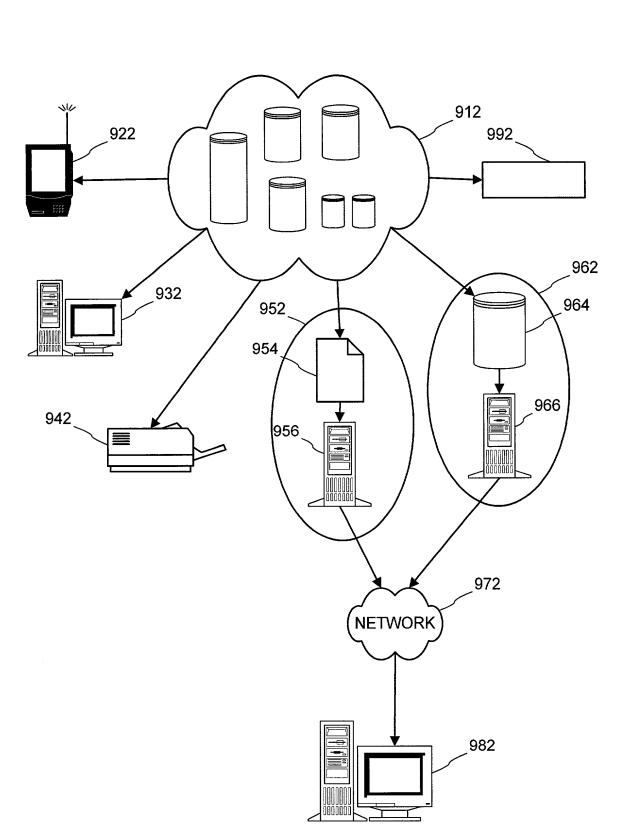




Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING,

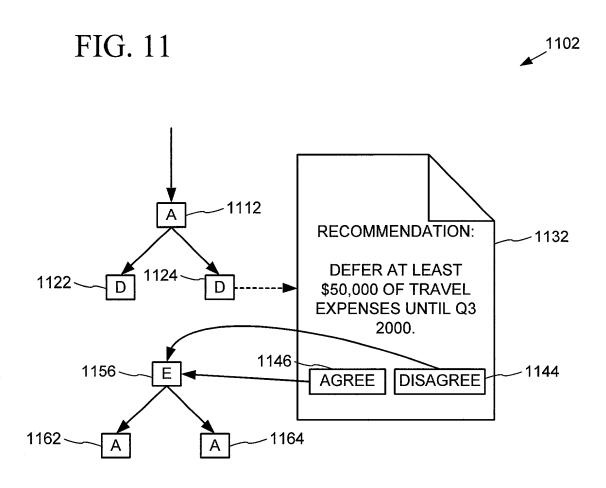
Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 9 of 103





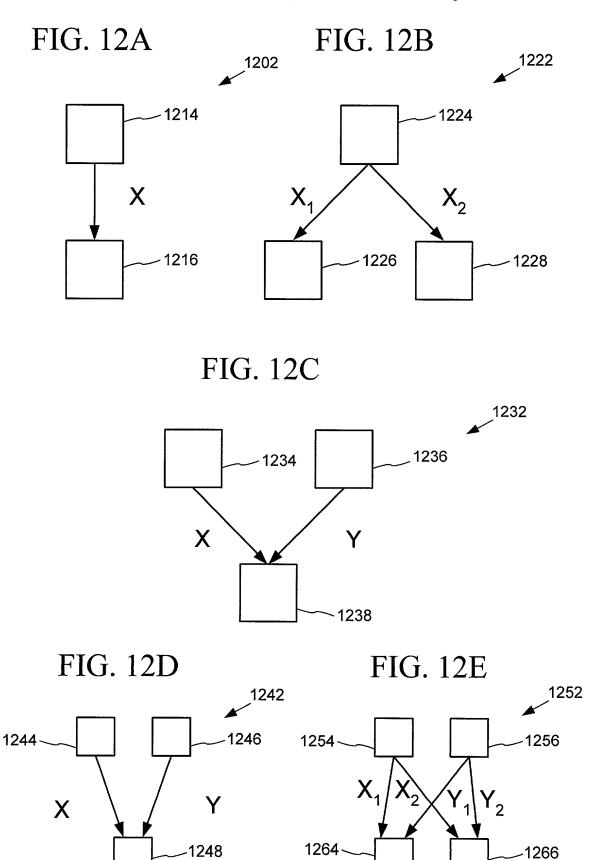
And the think that the state of the third that 1

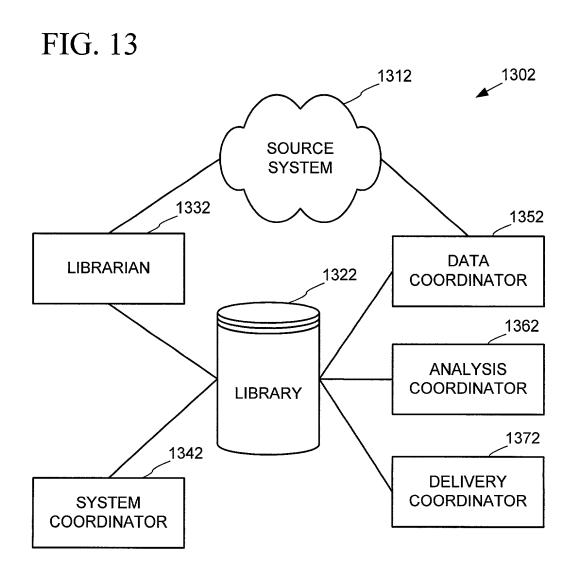
FIG. 10 1002 1022 **QUERY** The street with the gar spent 1032 1052 **REFINE ANALYZE** , specially State Art parts their first the 100 1042 **DELIVER**



Santa de Santa spesso spesso

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 12 of 103





QUERY COLUMNS

1416A

QUERIES

1416C

1416C

QUERY FILTERS

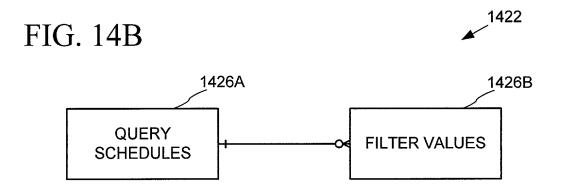
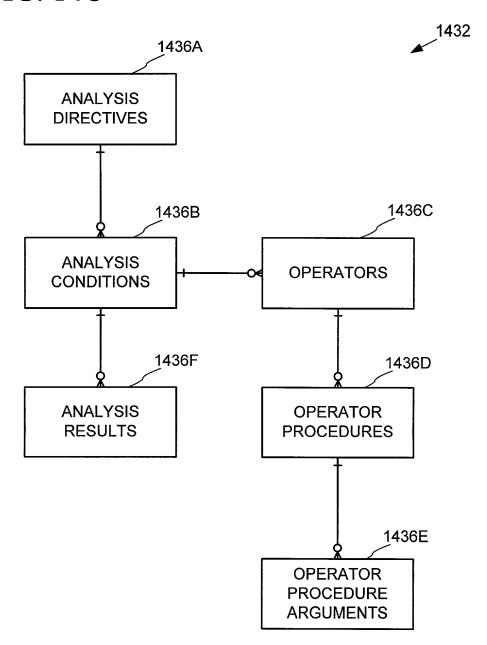


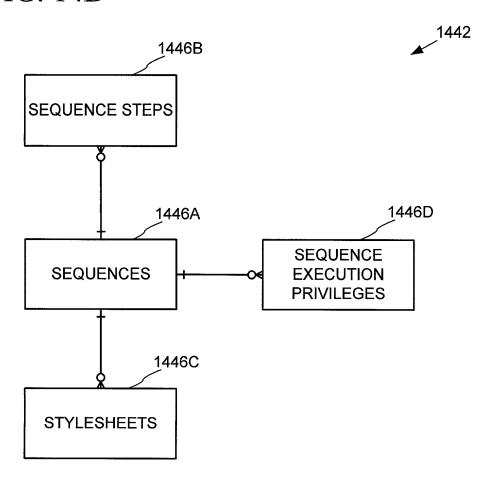
FIG. 14C



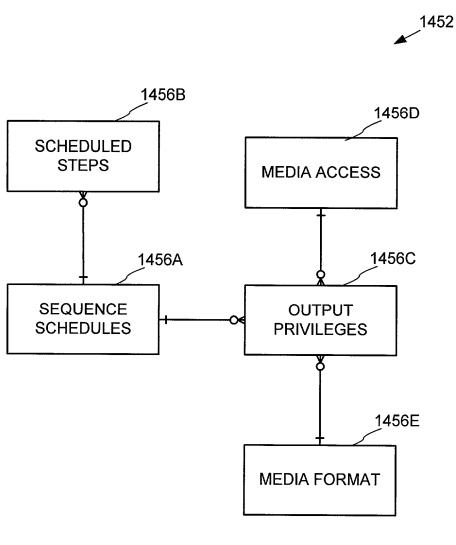
The state of the s

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 16 of 103

FIG. 14D







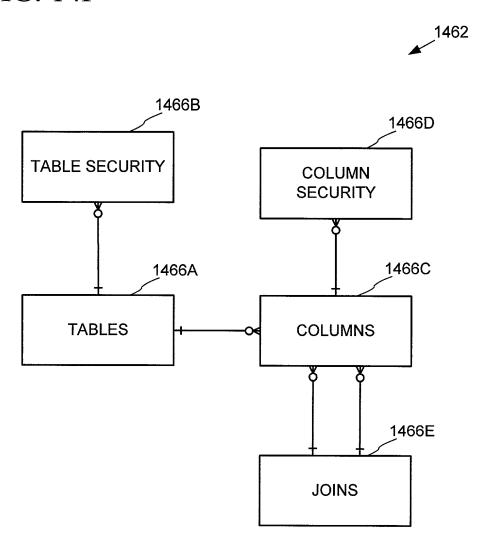
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING,

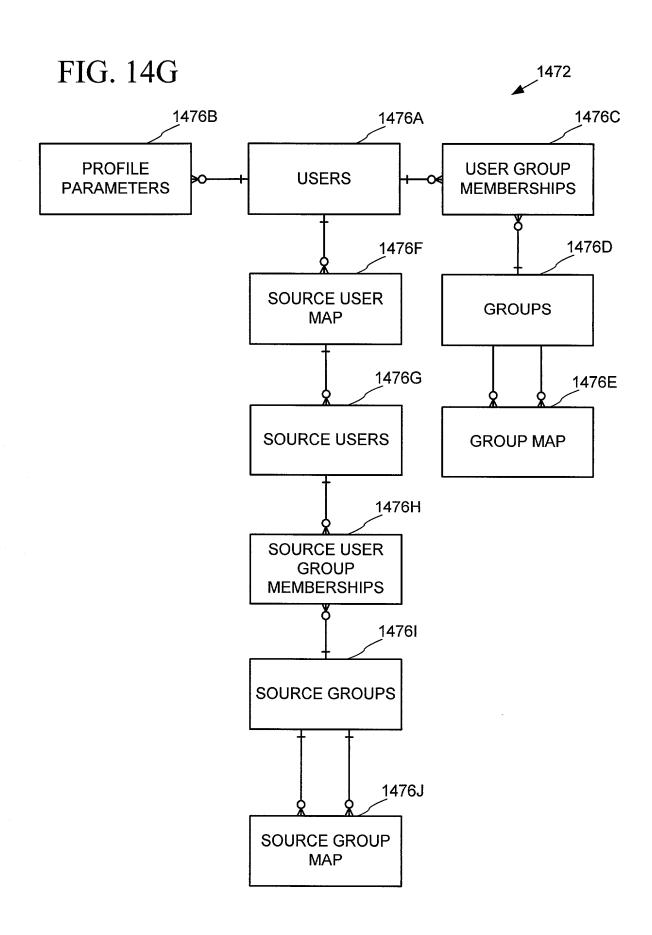
mus man

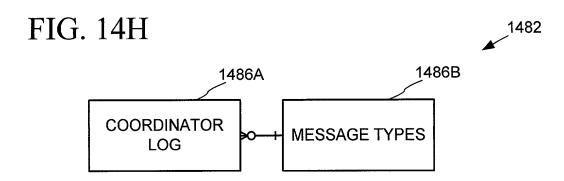
Mary of Mary the think the

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 18 of 103

FIG. 14F







	a	QUERY DIRECTIVES	IVES		
NAME	DESC	SOURCE	USER	STATUS	OPTION
NEW	NEW	SYSTEM A ▼ NB	NB	AVAILABLE ▼	(ADD
CC1	COST CENTER	SYSTEM A	出	AVAILABLE	GOW [
AR-PTD	PERIOD TO DATE SYSTEM B	SYSTEM B	rs	AVAILABLE	[MOD
REV	PTD REVENUE	SYSTEM B	RS	AVAILABLE	MOD [
FIN	FINANCIALS	SYSTEM B	ST	AVAILABLE	[MOD]
SALES	SALES BY DEPT	SYSTEM B	ST	AVAILABLE	

Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 21 of 103 GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR

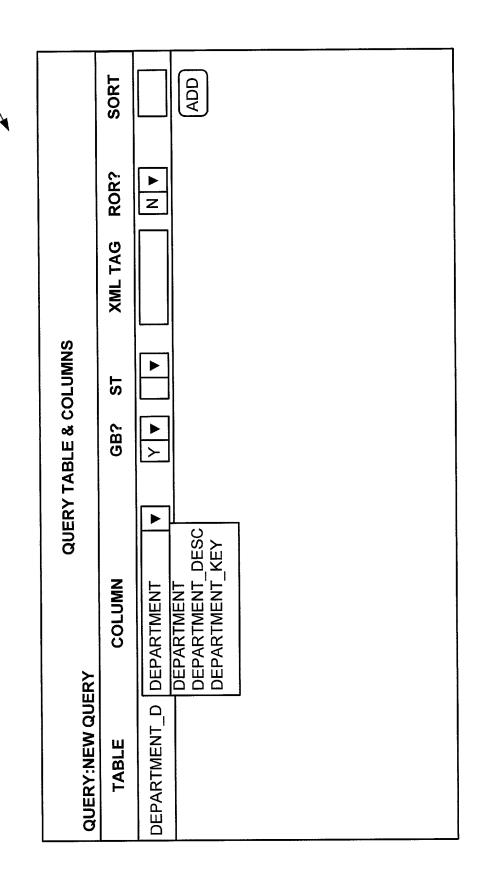
FIG. 15B

		QUER	Y TABL	QUERY TABLE & COLUMNS	JMNS		
QUERY:NEW QUERY							
TABLE		COLUMN	GB?	ST	XML TAG	ROR?	SORT
ACCOUNTING_DATE_D ▼		SELECT COLUMN	NM				
AR_RCT_REV_RESN_D	 						
AR_RECPT_STATUS_D F AR_REVENUE F							
AR_SCH_PMT_DTL_F							
AR SOLD TO CUST D							
ASSET_BOOK_D							
ASSET_INVENTORY_F							
AUTHORIZER_D	>						
]						

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR EXPERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, PAPPORT DEC

FIG. 15C

1506

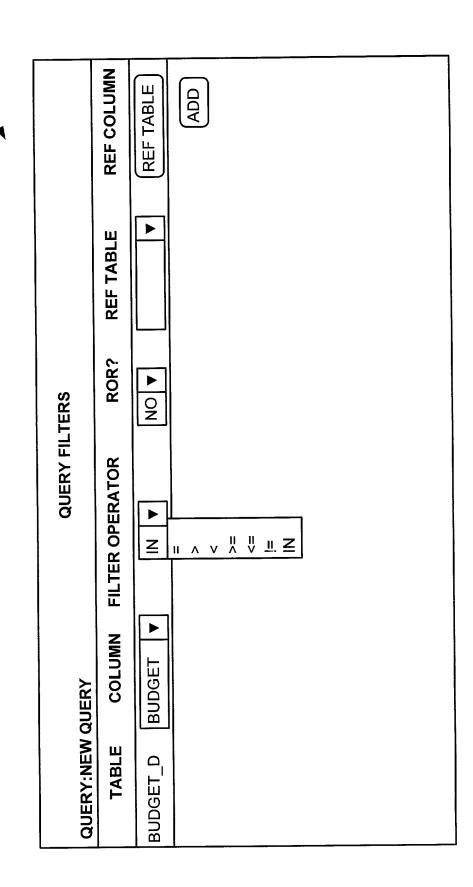


Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR EXpress Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 23 of 103

NWO
ı
DEPARTMENT_DESC

	QUERY TABLE & COLUMNS	BLE & C	OLUMN	S		
QUERY:NEW QUERY						
TABLE	COLUMN	GB?	ST	XML TAG ROR?	ROR?	SORT
DEPARTMENT_D	DEPARTMENT_DESC	А		DEPARTMENT	z	-
INC_STMT_LINES_D	LINE_NAME	¥		LINE_NAME	z	
INCOME_STMT_A	PTD_ACTUAL	z	SUM	PTD_ACTUAL	z	
INCOME_STMT_A	PTD_BUDGET	Z	SUM	PTD_BUDGET	z	
INCOME_STMT_A	PTD_VARIANCE	Z	SUM	PTD_VARIANCE N	Z	
	∀)	ADD COLUMN DONE	NMN.			

IG. 15F



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 26 of 103

VIEDV-NEW OFFER	IFRY	QÜERY FILTERS	TERS.		
TABLE	COLUMN	FILTER OPERATOR	ROR?	REF TABLE	REF COLUMN
3UDGET_D	BUDGET	Z	Z		
PERIOD_D	PERIOD	II	Z		
DEPARTMENT_D DEPART	D DEPARTME	MENT =	z	DEPARTMENT_D	DEPARTMENT_D DEPARTMENT_KEY
		ADD FILTER FINISH			

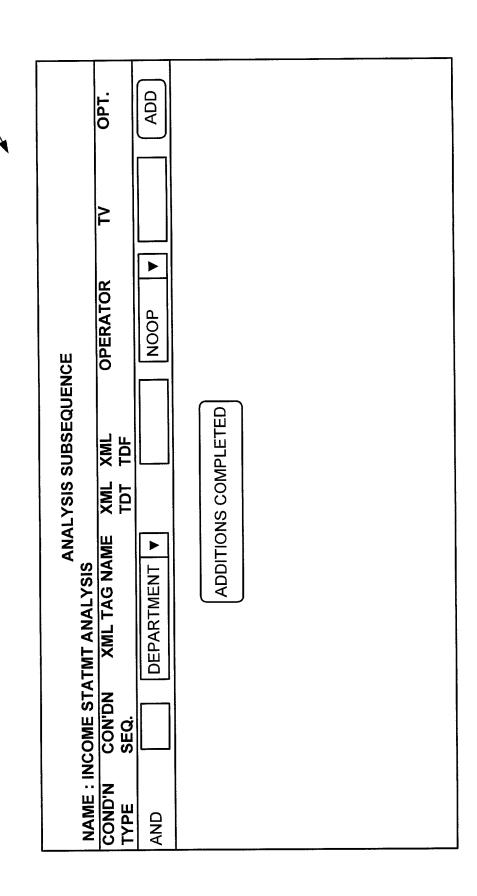
Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 27 of 103 GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon

FIG. 15H

				LI SIS SOBSERGENOE I O IIIE GOENIO ENTECTIONE SOLITORIO
ANALYSIS SUBS NAME	USER NAME	RESULTS TYPE	LAST RUN DATE	OPTIONS
NCOME STMT ANALYSIS	NB	SHOW		ADD

7 151

1518

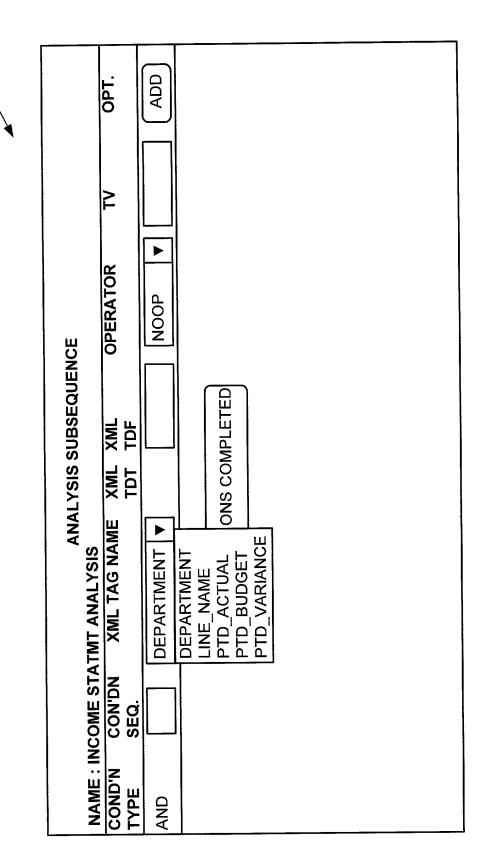


Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 29 of 103

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 1600, P

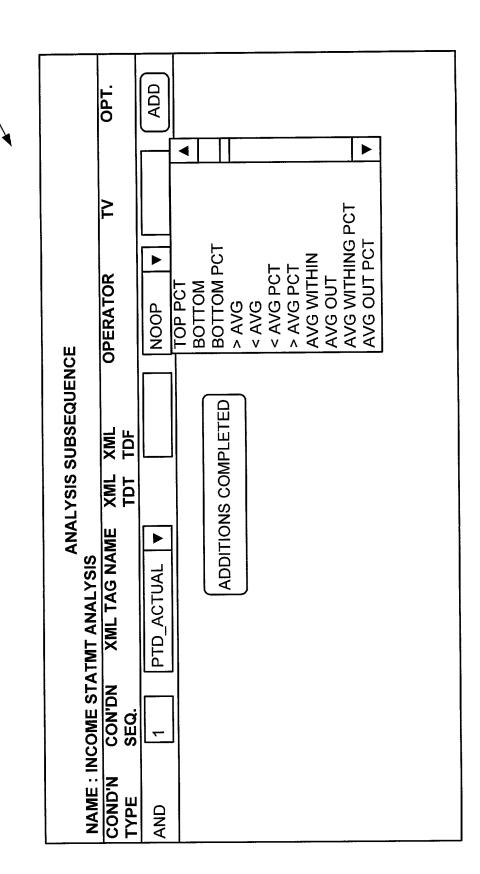
FIG. 15J

1520



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, PAPPER ATMARING, 100: EL754021232US, Attorney Docket No.: 6115-58351, Page 30 of 103

FIG. 15K



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 31 of 103

			NAL	YSIS !	ANALYSIS SUBSEQUENCE	NCE			
NAME : II COND'N TYPE	NAME: INCOME STATMT A COND'N CON'DN XMI	TATMT ANALYSIS N XML TAG NAME	i	XML	XML	OPERATOR		Δ	OPT
AND		DEPARTMENT				NOOP	 		ADD
AND	_	PTD_ACTUAL		:				0	MOD DEL
AND	2	PTD_VARIANCE V						300000	MOD DEI
AND	3	PTD_VARIANCE				TOP PCT	 	10	MOD DEL
		ADDITI		CON	ADDITIONS COMPLETED				

Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 32 of 103 CENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon

FIG. 15M

ADD,	ADD, EDIT OR DELETE SEQUENCES	SEQUENCES				
<u>a</u>	NAME	DESCRIPTION	STATUS USER OPT	ر د	JSER	OPT
	INCOME STAT'T ANALYSIS	INCOME STAT'T ANALYSIS	AVAIL	>	NB	ADD
24	FINANCIAL STATEMENT	FINANCIAL STATEMENT	AVAIL	>	RS	MOD
25	FSV	FSV	AVAIL	•	NB (MOD
26	COST CENTER SCORING 1	COST CENTER SCORING	DISAB	ightharpoons	LS	MOD
27	COST CENTER SCORING 2	CSS PTD-VARIANCE	AVAIL		rs	MOD

FIG. 15N

SEQ	SEQUENCE NA	ME: IN	ADD OK EDIT SEQUENCE STEP INFORMATION
₽	STEP	P DIRECTIVE TYPE	DIRECTIVE ID LUB LUD
28	_	QUERY DIRECTIVE	QUERY FOR STEP V ADD DEFINE
			AR - PTD REVENUE BY DEPARTMENT VARIANCE AND VARIANCE PERCENT NEW QUERY NEIL'S QUERY NEIL'S OTHER QUERY LARRY'S QUERY YET ANOTHER LARRY QUERY

FIG. 150

1532

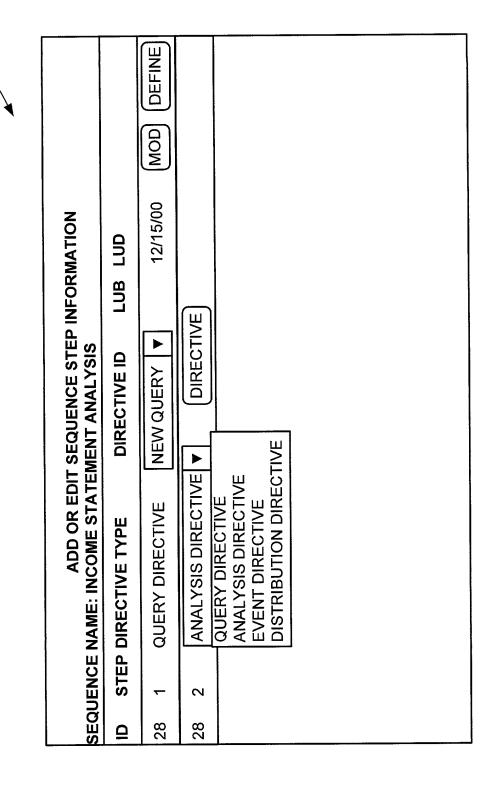


FIG. 15P

SE	g	SEQUENCE NAME: IN	ADD OR E	ADD OR EDIT SEQUENCE STEP INFORMATION ME: INCOME STATEMENT ANALYSIS	ICE STEP	INFOR	MATION		
₽	S)	ST DIRECTIVE TYPE		DIRECTIVE ID	•	LUB	TUB LUD		34
78	-	28 1 QUERY DIR	NEW QUERY	RY	•		12/15/00	MOD DI	DEFINE
78	7	28 2 ANALYSIS DIR INCOME STMT ANALYSIS	INCOME S	TMT ANALY	SIS ▼	NB	12/15/00	MOD DI	DEFINE
78	28 3	DISTRIBUTION DIRECTIVE	DIRECTIVE	•	DIRECTIVE	<u>Ш</u>			

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon D7204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 36 of 103

CREATE **DISTRIBUTION FORMAT** SEQUENCE NAME: INCOME STATEMENT ANALYSIS **FORMAT** EXCEL HTML WAP HTML

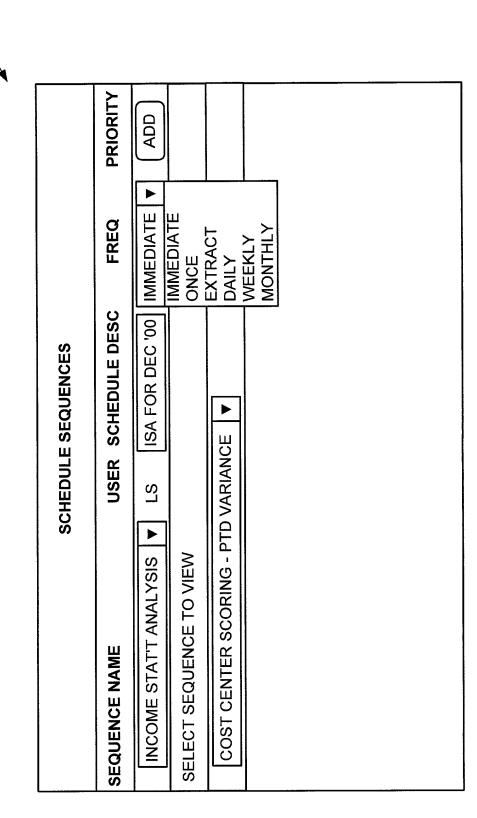
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 37 of 103

FIG. 15R

HOME INSTRUCTIONS	os	HEDULE	SCHEDULE SEQUENCES		
CHOME					
AVAILABLE	SEQUENCE NAME	USER	USER SCHEDULE DESC	FREQ	PRIORITY
ADMIN	INCOME STAT'T ANALYSIS ▼	ST	ISA FOR DEC '00	IMMEDIATE ▼	ADD
SYS SETTINGS USERS	SELECT SEQUENCE TO VIEW				
LOGS APPL SETTINGS	COST CENTER SCORING - PTD VARIANCE	VARIAN)E ▼	VIEW	
MEDIA SETT'S					

į.

FIG. 15S

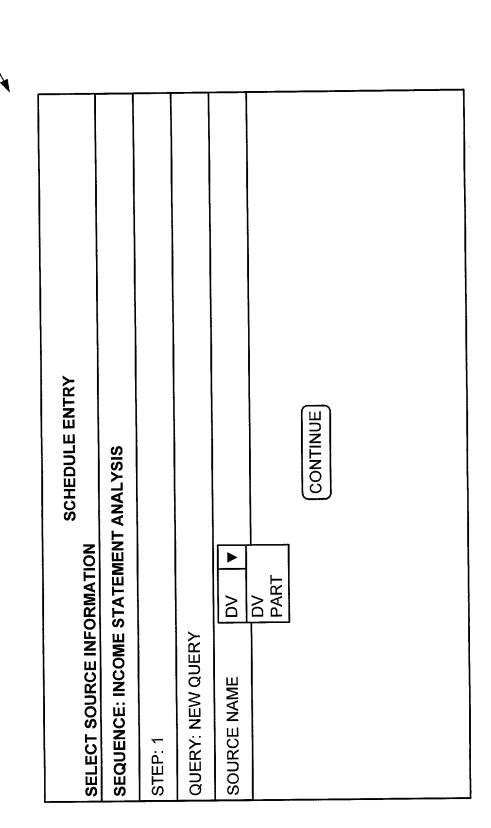


Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR ENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 39 of 103

ADD SEQUENCE TO SCHEDULE SELECT THE DAYS YOU WISH THE SEQUENCE TO RUN
□SUNDAY □ MONDAY □ TUESDAY □ WED □ THURS □ FRIDAY □ SATURDAY
START AT
8 ▼ : 30 ▼ PM ▼
VEXT START DATE
2000 ▼ DEC ▼ 15 ▼
SUBMIT

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR EXPREATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Proposition of the content of t

FIG. 15U



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Scheurich et al., State 100, Portland, Oregon 67204, (503) 226-7391, Inventors: Scheurich et al., Scheurich et a

FIG. 15V

SELECT SOURCE INFORMATION	SCHEDULE ENTRY JFORMATION
SEQUENCE: INCOME	E STATEMENT ANALYSIS
STEP: 1	
QUERY: NEW QUERY	\;
SOURCE NAME	PART
SOURCE SET	OAS 🔻
	CONTINUE

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Street, Suite 1600, Portland, Oregon 67204, (503) 226-7391, Inventors: Scheurich et al., Street, Street

FIG. 15W

FILTER VALUES FOR QUERY SEQUENCE: INCOME STATEMENT ANALYSIS SCHEDULE: INCOME STATEMENT ANALYSIS FOR DECEMBER 2000 SEQUENCE STEP: 1 NEW QUERY	FILTER VALUES COME STATEMENT ANALYSIS COME STATEMENT ANALYSIS EP: 1	ALUES F LYSIS LYSIS F	FILTER VALUES FOR QUERY IENT ANALYSIS IENT ANALYSIS FOR DECEMBER 2000	
TABLE NAME	COL NAME	OP	FILTER VALUE	
BUDGET_D	BUDGET	Z	ACTUAL MOD	
			CORPORATE 1997 ▼ MOD	DEL
			ADD	
PERIOD_D	PERIOD	II	DEC-2000 ▼ MOD	
IF YOU HAVE M/	ADE CHANGES AN OR DEL BUTTONS FIN	AND NOT SONS, THEY VEINISHED	IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED [FINISHED]	

FIG. 15X

Γ						
	GROUPS	RESULT VALUE OPT	ADD	ING THE ADD, TED		
	000	RESULT		THEM US COMMIT		
	SEQUENCE OUTPUT PRIVILEGES SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	CS RESULT TAG		IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED	FINISHED	
	CE OUTP VALYSIS	ST	b	GES AND	N.	
	SEQUEN	FORMAT	HTML •	MADE CHAN		
): 1815 INCOME ST	ACCESS	EMAIL_DATA ▼	IF YOU HAVE		
	SEQSCHEI	USER	NEILB ▼	NEILB LARRYS ERICH MARC SALES MARKET HQ		

FIG. 15Y

SEQUENCE OUTPUT PRIVILEGES SEQUENCE OUTPUT PRIVILEGES USER ACCESS FORMAT ST CS RESULT TAG RESULT VALUE OPT NEILB MAIL_DATA HTML MILL MILL	FINISHED
---	----------

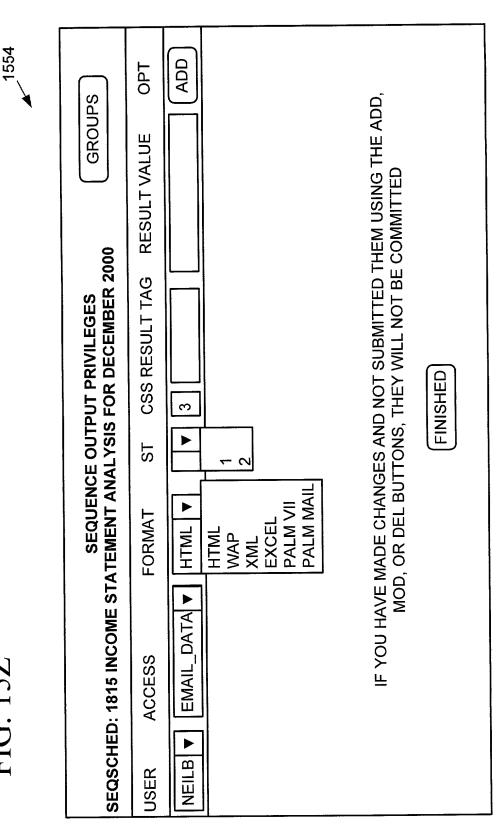


FIG. 15AA

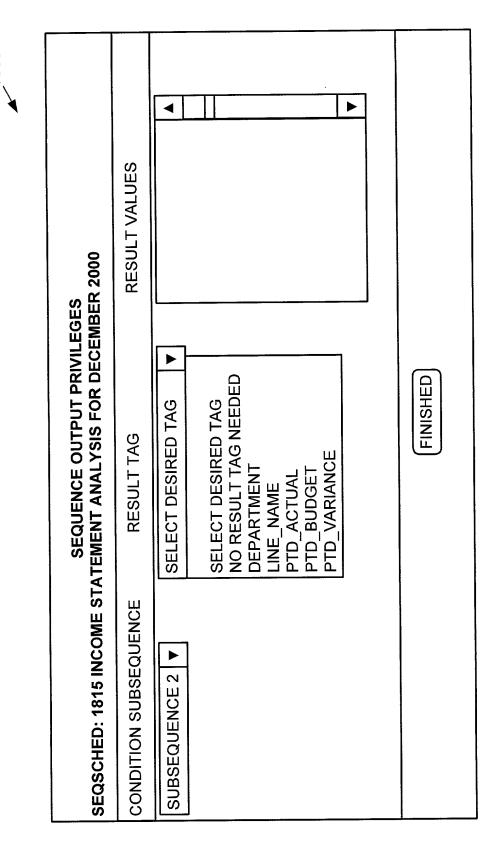


FIG. 15BB

SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	SELECT	□ MAINTENANCE □ MANUFACTURING ► ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	FINISHED
15 INCOM		MAIN MAN MAN MAN MAN MAN MAN MAN MAN MAN MA	
EQSCHED: 18'		«VAL» «VAL» «VAL» «VAL» «VAL» «VAL» «VAL» «VAL»	

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 48 of 103

FIG. 15CC

SEQUENCE OUTPUT PRIVILEGES SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	SEQUENCE OUTPUT PRIVILEGES ATEMENT ANALYSIS FOR DECEMBER	PRIVILEGES DECEMBER 2000
CONDITION SUBSEQUENCE	RESULT TAG	RESULT VALUES
SUBSEQUENCE 2 ▼	DEPARTMENT	<pre> <?XML VERSION = "1.0"?> <split values=""> <val>COMMERCIAL SALES</val> <val? communications="" resources<="" val=""> <val>EAST REGION SALES</val> <val>FINANCES</val> <val>FINANCES</val> <val>PRODUCT SALES</val> <val>PRODUCT SALES</val> </val?></split></pre> <val>PRODUCT SALES <val>PRODUCT SALES <val>PRODUCT SALES <val>PRODUCT SALES</val></val></val></val>
	FINISHED	Q

FIG. 15DD

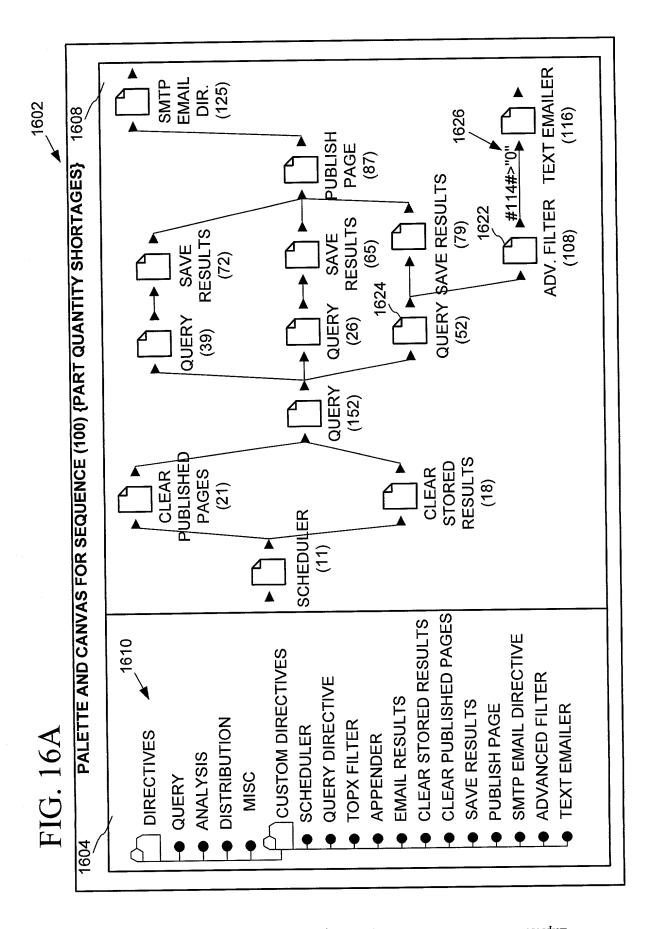
SEQSCHED): 1815 INCOME ST/	SEQUENC ATEMENT AN	SE OUTFIALYSIS	SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	GROUPS	ြွေ
USER	ACCESS	FORMAT	ST	CSS RESULT TAG F	RESULT VALUE	OPT
NEILB ▼	EMAIL_DATA ▼	HTML ▼	>	3		ADD
NEILB	EMAIL_DATA ▼	HTML •	2	2 DEPARTME </td <td><?XML VERSION =</td><td>MOD</td></td>	XML VERSION =</td <td>MOD</td>	MOD
	IF YOU HAVE MOE	MADE CHANO), OR DEL BU	GES ANI	IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED	EM USING THE AD OMMITTED	Ď,
			N N	FINISHED		

FIG. 15EE

	SCHEDULE SEQUENCES	SEQUENCE	S		
	SEQUENCE NAME USER S	USER SCHEDULE DESC	DESC	FREQ	PRIORITY
	TEST SEQUENCE FOR PRIV ▼ LS			IMMEDIATE ▼	ADD
S	SELECT SEQUENCE TO VIEW				
	TEST SEQUENCE FOR PRIVS AND STEPS	•		VIEW	
	TEST SEQUENCE FOR PRIVS AND STEPS COST CENTER SCORING - PTD COST CENTER SCORING - PTD VARIANCE TEST VOAGE AR - PTD REVUENUE BY DEPARTMENT SOCCER SCORES BUDGET VARIANCE SCORING INCOME STATEMENT ANALYSIS				

FIG. 15FF

IOS	SCHEDULE SEQUENCES	ICES		
SEQUENCE NAME	USER SCHEDULE DESC	LE DESC	FREQ	PRIORITY
TEST SEQUENCE FOR PRIV ▼	TS ST	IMN	IMMEDIATE ▼	ADD
SELECT SEQUENCE TO VIEW				
TEST SEQUENCE FOR PRIVS AND STEPS	ID STEPS ▼	<u>></u>	VIEW	
SEQUENCE: INCOME STATEMENT ANALYSIS USER: NB	NALYSIS USER: I	NB		
ID DESCRIPTION	STATUS	FREQ	START	OPTIONS
1815 INCOME STAT'T ANALYSIS DEC 2001 SCHED	C 2001 SCHED	DAILY	23-APR-2001 08:30 PM	2001 MOD M DEL PRIVILEGES



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 53 of 103

FIG. 16B

SEQUENCE PROPERTIES	TIES			×
SEQUENCE NAME: DESCRIPTION: NOTES:		PART QUANTITY SHORTAGES FINDS PART QUANTITY SHORTAGES SAVE THIS ONE	AGES CANCEL	
SEQUENCE AUTHOR	THOR: AUTHOR1 TUS: STATUS1	OR1 US1	ADD VARIABLE	ABLE
GLOBAL VARIABLES: CAPTION: CONN	BLES: CONNECT STE	3LES: CONNECT STRING NAME: CONN	NAME: CONNECT STRING	
VALUE: CAPTION:	JDBC:ORACLE	E.THIN@123.245.23.1:1521 SER NAME	I:CONNECT30 NAME: [USER_NAME	
VALUE:	RRIC1234			
CAPTION: VALUE:	DATABASE PASSWORD SEQUENCE		NAME: USER_PWD	
CAPTION: VALUE:	OWNERNAME QRY_ANALYSIS	S	NAME: OWNERNAME	
CAPTION: VALUE:	CURRENT PERIOD (1997-09) SEP-97	RIOD -97	NAME: CURPERIOD	

ID: 108 DIRECTIVE NAME: (ADFILTER) ADVANCED FILTER CANCE PARAM NAME (FILTER_EXP) FILTER EXPRESSION INPUT #REQUIRED_QUANTITY# >200 DB3(52) RESULT DATA INPUT S DIRECTIVE PROPERTIES ACTIVITY FIG. 16C

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 55 of 103

 \times SUM4 78260 178828 390000 3510 0 SUM3 -43092 48750 -244800 4800 -1440 COST CENTER ANALYSIS 244800 240000 ш 43092 0 1440 ш 48750 000 807 CLEANING AND MAIN ACCOMMODATION ACCOUNT DESC **ADVERTISING** CAR RENTAI BAD DEBT AIRFARE **BROWSER**

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 56 of 103

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 57 of 103

FIG. 18

</DF DIRECTIVE DEFINITION>

_1801

<DF DIRECTIVE DEFINITION DIRECTIVE ID="DB2" DIRECTIVE NAME="DATA DIRECTIVE"</p> THREADING EFFECT="SPLIT" DIRECTIVE_DESC="SQL DATADIRECTIVE THAT SPLITS RESULTS ON GIVEN COLUMN" DIRECTIVE VENDOR="DPA" DIRECTIVE VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA DIRECTIVE MGR" MACHINE="SKUNKNT4"</p> PORT="9070"/> <IN PARAMETERS> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SQL" PARAM DATA TYPE="STRING" PARAM NAME="SQL"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="COLUMN TO SPLIT" PARAM DATA TYPE="STRING" PARAM_NAME="SPLIT_COLUMN"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="CONNECTION STRING" PARAM DATA TYPE="STRING" PARAM NAME="CONNECTION STRING"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE USER NAME" PARAM DATA TYPE="STRING" PARAM NAME="USERNAME"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE PASSWORD"</p> PARAM DATA TYPE="STRING" PARAM NAME="PWD"/> </IN PARAMETERS> **<OUT PARAMETERS>** Ü <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="RESULT DATA" PARAM DATA TYPE="STRING" PARAM NAME="RESULTSET"/> <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="RESULT METADATA" PARAM DATA TYPE="STRING" PARAM NAME="RESULTMETADATA"/> <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="SPLIT VALUE" PARAM DATA TYPE="STRING" PARAM NAME="SPLITVALUE"/> </OUT PARAMETERS>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 58 of 103

FIG. 19A

__1901

- < DF DIRECTIVE DEFINITION LIST> - <DF DIRECTIVE DEFINITION DIRECTIVE ID="SB1" DIRECTIVE NAME="SCHEDULER"</p> DIRECTIVE CATEGORY="DPA-MISC" THREADING EFFECT="SPLIT" DIRECTIVE DESC="SCHEDULE DIRECTIVE" DIRECTIVE VENDOR="DPA" DIRECTIVE VERSION="1"> - <!-- CAN ADD A TYPE OR ICON NAME --> - <IN PARAMETERS> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="FREQUENCY"</p> PARAM DATA TYPE="STRING" PARAM NAME="FREQUENCY" /> </IN PARAMETERS> <</pre>OUT PARAMETERS /> SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /> #</DF DIRECTIVE DEFINITION> OF DIRECTIVE DEFINITION DIRECTIVE ID="DB2" DIRECTIVE NAME="DATA DIRECTIVE" THREADING EFFECT="SPLIT" DIRECTIVE DESC="SQL DATADIRECTIVE THAT SPLITS 漱ESULTS ON GIVEN COLUMN" DIRECTIVE VENDOR="DPA" DIRECTIVE VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</p> -<IN PARAMETERS> # <PARAMETER PARAM TYPE="IN" PARAM CAPTION="SQL"</pre> PARAM DATA TYPE="STRING" PARAM NAME="SQL" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="COLUMN TO SPLIT"</p> PARAM DATA TYPE="STRING" PARAM NAME="SPLIT COLUMN" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="CONNECTION STRING"</p> PARAM DATA TYPE="STRING" PARAM NAME="CONNECTION STRING" /> <PARAMETER PARAM_TYPE="IN" PARAM_ CAPTION="DATABASE USER NAME"</p> PARAM DATA TYPE="STRING" PARAM NAME="USERNAME" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE PASSWORD"</p> PARAM_DATA_TYPE="STRING" PARAM_NAME="PWD" /> </IN PARAMETERS>

FIG. 19B

_1902

```
- <OUT PARAMETERS>
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="SPLIT VALUE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SPLITVALUE" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="AB1" DIRECTIVE_NAME="TOPX FILTER"
THREADING_EFFECT="STANDARD" DIRECTIVE_DESC="FILTER OUT TOP X ROWS FROM
RESULTSET" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
OEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4"
PORT="9070" />
<IN PARAMETERS>
PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM DATA TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="COLUMN POSITION FOR TOPX"
PARAM_DATA_TYPE="STRING" PARAM_NAME="TOPX_COLUMN" />
# </IN PARAMETERS>
<OUT PARAMETERS>
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="AB2" DIRECTIVE_NAME="APPENDER"
DIRECTIVE_TYPE="" THREADING EFFECT="JOIN" DIRECTIVE_DESC="REJOIN SPLIT
RESULTSETS" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
 <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
 - <IN PARAMETERS>
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
 PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  </IN PARAMETERS>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 60 of 103

FIG. 19C

_1903

```
- <OUT_PARAMETERS>
 <PARAMETER PARAM_ TYPE="OUT" PARAM CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="MB1" DIRECTIVE_NAME="EMAIL RESULTS"
THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="SIMPLE
EMAIL DIRECTIVE" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
 <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
 <IN PARAMETERS>
PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL ADDRESS LIST"
PARAM_DATA_TYPE="STRING" PARAM_NAME="MAILADR" />
APARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SUBJECT LINE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SUBJECT" />
# <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="MESSAGE DATA"</pre>
PARAM_DATA_TYPE="STRING" PARAM_NAME="MESSAGE" />
<OUT_PARAMETERS />
OF_DIRECTIVE_DEFINITION DIRECTIVE_ID="CRB1" DIRECTIVE_NAME="CLEAR STORED
RESULTS" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE=""
DIRECTIVE DESC="REMOVE PREVIOUS RESULT SETS FROM REPOSITORY"
 DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-
 MISC">
 <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
 - <IN PARAMETERS>
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="OWNER ID"
 PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNERID" />
  <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTNAME"
 PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTNAME" />
  </IN PARAMETERS>
  <OUT PARAMETERS />
  </DF_DIRECTIVE_DEFINITION>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 61 of 103

FIG. 19D

__1904

```
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="CRC1" DIRECTIVE_NAME="CLEAR
PUBLISHED PAGES" THREADING_EFFECT="STANDARD" DIRECTIVE TYPE=""
DIRECTIVE_DESC="REMOVE PREVIOUS PUBLISHED PAGES FROM REPOSITORY"
DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-
MISC">
 <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
- <IN PARAMETERS>
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="OWNERID"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNERID" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="PAGE NAME"
PARAM DATA TYPE="STRING" PARAM_NAME="PAGENAME" />
 </IN PARAMETERS>
OUT_PARAMETERS />
</DF_DIRECTIVE_DEFINITION>
OF_DIRECTIVE_DEFINITION DIRECTIVE_ID="SR1" DIRECTIVE_NAME="SAVE RESULTS"
THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="SAVES
RESULTS TO REPOSITORY" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
<DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
 <IN PARAMETERS>
PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTNAME" />
  </IN PARAMETERS>
 - <OUT PARAMETERS>
 <PARAMETER PARAM TYPE="OUT" PARAM_CAPTION="RESULTSET ID"
PARAM DATA TYPE="STRING" PARAM_NAME="RESULTSETID" />
  </OUT PARAMETERS>
  </DF DIRECTIVE DEFINITION>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 62 of 103

FIG. 19E

1905

- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="CR2" DIRECTIVE_NAME="PUBLISH PAGE" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="PUBLISHES PAGE & GRANTS SECURITY" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> - <IN PARAMETERS> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="GRANT SECURITY LIST" PARAM DATA TYPE="STRING" PARAM NAME="SECDOC" /> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="METADATA FOR SECDOC" PARAM DATA TYPE="STRING" PARAM_NAME="SECMETA" /> PARAMETER PARAM TYPE="IN" PARAM CAPTION="GRANT SECURITY LIST" PARAM DATA TYPE="STRING" PARAM NAME="SECCOLNAME" /> <PARAMETER PARAM TYPE="IN" PARAM_CAPTION="PAGE OWNER"</pre> PARAM DATA TYPE="STRING" PARAM NAME="OWNER" /> PARAMETER PARAM_TYPE="IN" PARAM CAPTION="PAGE NAME" PARAM DATA TYPE="STRING" PARAM NAME="PAGENAME" /> PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE SLICE NAME" PARAM DATA TYPE="STRING" PARAM NAME="PAGESLICENAME" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE DEFINITION"</p> PARAM DATA TYPE="STRING" PARAM NAME="PAGEDEFN" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" "PARAM DATA TYPE="STRING" PARAM NAME="P1" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P2" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM_DATA_TYPE="STRING" PARAM NAME="P3" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P4" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P5" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P6" /> </IN PARAMETERS>

FIG. 19F

1906

```
- <OUT PARAMETERS>
 <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="PAGE ID"
PARAM DATA TYPE="STRING" PARAM_NAME="PAGEID" />
 <PARAMETER PARAM TYPE="OUT" PARAM_CAPTION="PAGE OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
 <PARAMETER PARAM TYPE="OUT" PARAM_CAPTION="PAGE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGENAME" />
 <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="PAGE SLICE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGESLICENAME" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
COF_DIRECTIVE_DEFINITION DIRECTIVE_ID="DB3" DIRECTIVE_NAME="DATA DIRECTIVE"
THREADING_EFFECT="STANDARD" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE
INTO RESULT SET" DIRECTIVE VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
<DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
<IN PARAMETERS>
<PARAMETER PARAM TYPE="IN" PARAM CAPTION="SQL"</p>
PARAM DATA TYPE="PARAMITERIZED SQL STRING" PARAM NAME="SQL" />
$\overline{\text{\text{$\sigma}}} < PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="CONNECTION STRING"</pre>
PARAM DATA TYPE="STRING" PARAM NAME="CONNECTION STRING" />
PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE USER NAME"
"PARAM DATA TYPE="STRING" PARAM NAME="USERNAME" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE PASSWORD"
PARAM DATA TYPE="STRING" PARAM NAME="PWD" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P1" PARAM_DATA_TYPE="STRING"
PARAM NAME="P1" />
 <PARAMETER PARAM TYPE="IN" PARAM CAPTION="P2" PARAM DATA TYPE="STRING"
PARAM NAME="P2" />
 <PARAMETER PARAM TYPE="IN" PARAM CAPTION="P3" PARAM DATA TYPE="STRING"
PARAM NAME="P3" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P4" PARAM_DATA_TYPE="STRING"
PARAM NAME="P4" />
 <PARAMETER PARAM TYPE="IN" PARAM_CAPTION="P5" PARAM_DATA_TYPE="STRING"
PARAM NAME="P5" />
 </IN PARAMETERS>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 64 of 103

FIG. 19G

_1907

- <OUT PARAMETERS> <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA" PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" /> <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA" PARAM DATA TYPE="STRING" PARAM_NAME="RESULTMETADATA" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="MB2" DIRECTIVE_NAME="SMTP EMAIL DIRECTIVE" THREADING EFFECT="STANDARD" DIRECTIVE TYPE="" DIRECTIVE DESC="SEND PUBLISHED PAGES" DIRECTIVE_VENDOR="DPA" DIRECTIVE VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</p> | <IN_PARAMETERS> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL ADDRESSES" PARAM_DATA_TYPE="STRING" PARAM_NAME="ADDRDOC" /> ♣ <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="METADATA FOR ADDRDOC"</p> PARAM DATA TYPE="STRING" PARAM NAME="ADDRMETA" /> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL COLUMN NAME" PARAM DATA TYPE="STRING" PARAM NAME="ADDRCOLNAME" /> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL COLUMN NAME" PARAM DATA TYPE="STRING" PARAM NAME="IDCOLNAME" /> APARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SUBJECT" PARAM DATA TYPE="STRING" PARAM NAME="SUBJECT" /> → <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE OWNER"
</p> PARAM DATA TYPE="STRING" PARAM NAME="OWNER" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE NAME" PARAM DATA TYPE="STRING" PARAM NAME="PAGENAME" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE INSTANCE" PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGEINST" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="MAIL FORMAT" PARAM DATA TYPE="STRING" PARAM_NAME="FORMAT" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SEND FROM MAIL ADDRESS" PARAM DATA TYPE="STRING" PARAM NAME="SENDFROM" /> </IN PARAMETERS>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 65 of 103

FIG. 19H

_1908

- <OUT PARAMETERS> <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="ERROR MESSAGES" PARAM_DATA_TYPE="STRING" PARAM_NAME="ERROR_MSG" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="ABFILTER" DIRECTIVE_NAME="ADVANCED FILTER" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="FILTER RESULTS" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE_CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> <IN PARAMETERS> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="FILTER EXPRESSION" PARAM DATA TYPE="STRING" PARAM NAME="FILTER_EXP" /> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS METADATA" #PARAM_DATA_TYPE="STRING" PARAM_NAME="METADOC" /> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS" PARAM DATA TYPE="STRING" PARAM_NAME="RESULTSDOC" /> </IN PARAMETERS> < <OUT PARAMETERS> CPARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULTS METADATA" PARAM_DATA_TYPE="STRING" PARAM_NAME="METADOC" /> <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULTS"</p> PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSDOC" /> PARAM_DATA_TYPE="STRING" PARAM_NAME="ROWCOUNT" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="TEXTEMAILER" DIRECTIVE_NAME="TEXT EMAILER" THREADING_EFFECT="STANDARD" DIRECTIVE_TYPE="" DIRECTIVE_DESC="TEXT EMAILER" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 66 of 103

FIG. 19I

_1909

- <IN PARAMETERS> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SUBJECT EXPRESSION" PARAM_DATA_TYPE="STRING" PARAM_NAME="SUBJECT_EXP" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="MESSAGE EXPRESSION" PARAM_DATA_TYPE="STRING" PARAM_NAME="MESSAGE_EXP" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="EMAIL ADDRESSES" PARAM_DATA_TYPE="STRING" PARAM_NAME="EMAIL_ADDRESSES" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="SEND FROM ADDRESS" PARAM_DATA_TYPE="STRING" PARAM_NAME="FROM_ADDRESS" /> <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS METADATA" PARAM DATA TYPE="STRING" PARAM NAME="METADOC" /> PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULTS" PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSDOC" /> **IN PARAMETERS> - SOUT PARAMETERS>** PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="ERROR MESSAGES" PARAM_DATA_TYPE="STRING" PARAM_NAME="ERROR" /> !
/OUT PARAMETERS> INDICATION DEFINITION> /DF_DIRECTIVE_DEFINITION LIST> ü

FIG. 20A

2001

```
- <RESULTS DOC>
- <DP QUERY DEF VERSION="1">
 <DPA_IDENTIFIERS DATA_SET="NW" WH_OWNER NAME="RROC" />
 <HINTS />
- < COLUMN DEFS>
 <COLUMN_DEF COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN TEXT="VENDOR NAME" TABLE ALIAS="VENDOR D"
COLUMN_NAME="VENDOR_NAME" COLUMN_ALIAS="VENDOR_NAME"
COLUMN_SORT_ORDER="1" COLUMN_POSITION="1"
COLUMN TYPE="GROUP BY" />
 <COLUMN DEF COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN_TEXT="PERIOD_KEY" TABLE ALIAS="AP INV DETAIL F"
COLUMN NAME="PERIOD KEY" COLUMN ALIAS="PERIOD KEY"
COLUMN_SORT_ORDER="2" COLUMN_POSITION="2"
COLUMN TYPE="GROUP BY" />
 <COLUMN_DEF COLUMN_SORT ATTRIBUTE="DESC"</pre>
COLUMN TEXT="SUM(AP INV DETAIL F.INVOICE LINE AMOUNT)"
TABLE ALIAS="AP INV DETAIL F"
COLUMN NAME="INVOICE LINE AMOUNT"
COLUMN_ALIAS="SUM_INVOICE_LINE AMOUNT"
COLUMN SORT ORDER="3" COLUMN POSITION="3"
COLUMN_TYPE="AGGREGATE" />
 </COLUMN DEFS>
- <TABLE DEFS>
 <TABLE DEF TABLE ALIAS="AP INV DETAIL F"
TABLE NAME="AP INV DETAIL F" />
 <TABLE_DEF TABLE_ALIAS="VENDOR_D" TABLE_NAME="VENDOR_D" /
>
 </TABLE DEFS>
- <DETAIL FILTERS>
- <FILTER FILTER_TYPE="VALUE" COLUMN_TEXT="VENDOR_TYPE"
TABLE ALIAS="VENDOR D" FILTER PREC_OPER="AND"
FILTER OPERATOR="=">
<FILTER_VALUE VALUE_DATA_TYPE="STRING">EMPLOYEE
FILTER_VALUE>
</FILTER>
```

FIG. 20B

2002

- <FILTER FILTER TYPE="VALUE" COLUMN TEXT="COMPANY KEY" TABLE_ALIAS="AP_INV_DETAIL_F" FILTER_PREC_OPER="AND" FILTER OPERATOR="="> <FILTER_VALUE VALUE_DATA_TYPE="STRING">01</FILTER VALUE> </FILTER> </DETAIL FILTERS> - <AGGREGATE FILTERS> - <FILTER FILTER TYPE="VALUE"</p> COLUMN TEXT="SUM(INVOICE LINE AMOUNT)" TABLE_ALIAS="AP_INV_DETAIL F" FILTER PREC OPER="AND" FILTER OPERATOR=">"> <FILTER_VALUE VALUE_DATA_TYPE="NUMBER">0</FILTER VALUE> </FILTER> </AGGREGATE FILTERS> </DP QUERY DEF> <DPA_QUERY_SERVER_INFO SERVICE="DPA_QUERY_SERVER"</p> MACHINE="EXH 2K" PORT="8069" WAREHOUSE SERVER="HD.DPAPPLICATIONS.COM" WAREHOUSE DBNAME="DEMO30" WAREHOUSE OWNER="RROC">FOODADDY</ DPA_QUERY_SERVER_INFO> - <DP DS METADATA> <DP_COLUMN COLUMN_NAME="VENDOR_NAME"</pre> COLUMN DATA TYPE="VARCHAR2" COLUMN DS ALIAS="C1" COLUMN_TYPE="GROUP_BY" COLUMN SORT ATTRIBUTE="NONE" COLUMN SOURCE ALIAS="VENDOR NAME" COLUMN_LABEL="VENDOR NAME" COLUMN DESC="" COLUMN_IS_CURRENCY="N" /> <DP COLUMN COLUMN NAME="PERIOD KEY"</p> COLUMN_DATA_TYPE="VARCHAR2" COLUMN DS ALIAS="C2" COLUMN_TYPE="GROUP_BY" COLUMN_SORT ATTRIBUTE="NONE" COLUMN_SOURCE_ALIAS="PERIOD KEY" COLUMN LABEL="PERIOD KEY" COLUMN_DESC="" COLUMN IS CURRENCY="N" /> <DP_COLUMN COLUMN_NAME="SUM INVOICE LINE AMOUNT"</p> COLUMN_DATA TYPE="NUMBER" COLUMN DS ALIAS="C3" COLUMN_TYPE="AGGREGATE" COLUMN_SORT_ATTRIBUTE="DESC" COLUMN_SOURCE ALIAS="SUM INVOICE LINE AMOUNT" COLUMN LABEL="INVOICE LINE AMOUNT" COLUMN DESC="" COLUMN IS CURRENCY="Y" />

</R>

FIG. 20C

</DP_DS_METADATA> - <DP DS> - <R> <C1>JAMIE FROST</C1> <C2>DEC-97</C2> <C3>28159</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>JAN-98</C2> <C3>15114.76</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>FEB-98</C2> <C3>4417.86</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>APR-98</C2> <C3>3439.10</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>DEC-97</C2> <C3>3263</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>NOV-97</C2> <C3>2907.85</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>FEB-98</C2> <C3>2799.31</C3>

2003

2004

FIG. 20D

- <R> <C1>KERRY JONES</C1> <C2>MAY-98</C2> <C3>2698.64</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>APR-98</C2> <C3>2657.20</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>MAY-98</C2> <C3>2549.68</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>MAR-98</C2> <C3>2511.98</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>MAR-98</C2> <C3>2459.87</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>JUN-98</C2> <C3>2219.90</C3> </R>- <R> <C1>KERRY JONES</C1> <C2>JUN-98</C2> <C3>2182.29</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>JAN-98</C2>

<C3>1516</C3>

</R>

2005



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 72 of 103

FIG. 21A

210

- <DF WORKFLOW VERSION="1"> <DF WORKFLOW HEADER DF EDITOR MAX ID="172" FLOW NAME="QTY ANALYSIS"</p> FLOW DESCRIPTION="QTY ANALYSIS FLOW" FLOW STATUS="FLOW STATUS" FLOW_NOTES="" FLOW_AUTHOR="FLOW AUTHOR" /> - <DF WORKFLOW PARAMETERS> - <PARAMETER NODE_ID="13" PARAM DATA TYPE="STRING" PARAM CAPTION="CONNECT STRING" PARAM NAME="CONNECT STRING" PARAM TYPE="OUT"> <PARAM SOURCE PARAM_TYPE="VALUE">JDBC:ORACLE:THIN:@172.16.1.34:1521:DEMO30</ PARAM SOURCE> </PARAMETER> _<PARAMETER NODE_ID="14" PARAM DATA_TYPE="STRING"</pre> PARAM CAPTION="DATABASE USER NAME" PARAM NAME="USER_NAME" FARAM TYPE="OUT"> PARAM SOURCE PARAM TYPE="VALUE">RROC609</PARAM SOURCE> PARAMETER NODE_ID="15" PARAM_ DATA TYPE="STRING" PARAM CAPTION="DATABASE PASSWORD" PARAM NAME="USER_PWD" PARAM TYPE="OUT"> <PARAM SOURCE PARAM TYPE="VALUE">DPA</PARAM SOURCE> /PARAMETER> PARAMETER NODE ID="16" PARAM DATA_TYPE="STRING" PARAM CAPTION="OWNERNAME" PARAM NAME="OWNERNAME" PARAM TYPE="OUT"> PARAM SOURCE PARAM TYPE="VALUE">QTY ANALYSIS</PARAM_SOURCE> /PARAMETER> - <PARAMETER NODE_ID="17" PARAM_ DATA TYPE="STRING" PARAM CAPTION="CURRENT PERIOD" PARAM NAME="CURRPERIOD" PARAM TYPE="OUT"> <PARAM SOURCE PARAM TYPE="VALUE">(1997-09) SEP-97</PARAM_SOURCE> </PARAMETER> </DF WORKFLOW PARAMETERS> - <DF WORKFLOW ACTIVITIES> - <ACTIVITY NODE ID="11"> <activity_header activity_notes="activity notes" ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity implementation directive vendor="dpa" DIRECTIVE NAME="SCHEDULER" THREADING EFFECT="SPLIT" DIRECTIVE ID="SB1" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="SCHEDULE DIRECTIVE" />

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 73 of 103

FIG. 21B

2102

- <ACTIVITY IN PARAMETERS> - <PARAMETER NODE ID="12" PARAM DATA TYPE="STRING" PARAM_CAPTION="FREQUENCY" PARAM_NAME="FREQUENCY" PARAM_TYPE="IN"> <PARAM SOURCE PARAM TYPE="VALUE">0</PARAM_SOURCE> </PARAMETER> </ACTIVITY IN PARAMETERS> <ACTIVITY OUT PARAMETERS /> </ACTIVITY> - <ACTIVITY NODE ID="18"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES" ACTIVITY_DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity_implementation directive_vendor="dpa" directive_name="clear" STORED RESULTS" THREADING_EFFECT="STANDARD" DIRECTIVE ID="CRB1" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="REMOVE PREVIOUS RESULT SETS FROM REPOSITORY" /> <ACTIVITY IN PARAMETERS> INCOME NO PARAM_IDE NO PARAM_DATA_TYPE="STRING" PARAM_CAPTION="OWNER" TYPE="IN"> PARAM SOURCE PARAM TYPE="ID">16</PARAM_SOURCE> </PARAMETER> PARAMETER NODE_ID="20" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULTNAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN"> FARAM SOURCE PARAM TYPE="VALUE">*</PARAM_SOURCE> </PARAMETER> </ACTIVITY IN PARAMETERS> ACTIVITY OUT PARAMETERS /> </ACTIVITY> - <ACTIVITY NODE ID="21"> <activity_header activity_notes="activity notes" ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity_implementation directive_vendor="dpa" directive_name="clear" PUBLISHED PAGES" THREADING EFFECT="STANDARD" DIRECTIVE ID="CRC1" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="REMOVE PREVIOUS PUBLISHED PAGES FROM REPOSITORY" />

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 74 of 103

2103

FIG. 21C

```
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE ID="22" PARAM DATA TYPE="STRING"
PARAM CAPTION="OWNERID" PARAM NAME="OWNERID" PARAM TYPE="IN">
 <PARAM SOURCE PARAM TYPE="ID">16</PARAM SOURCE>
 </PARAMETER>
- <PARAMETER NODE ID="23" PARAM DATA TYPE="STRING" PARAM CAPTION="PAGE
NAME" PARAM NAME="PAGENAME" PARAM TYPE="IN">
 <PARAM SOURCE PARAM TYPE="VALUE">*</PARAM_SOURCE>
 </PARAMETER>
 </ACTIVITY IN PARAMETERS>
 <ACTIVITY OUT PARAMETERS />
 </ACTIVITY>
- <ACTIVITY NODE ID="26">
 <activity_header activity_notes="activity notes"
ACTIVITY DESCRIPTION="DETAIL QUERY" />
ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA" DIRECTIVE NAME="DATA"
DIRECTIVE" THREADING EFFECT="STANDARD" DIRECTIVE_ID="DB3"
DIRECTIVE VERSION="1" DIRECTIVE DESC="RETRIEVE DATA AND ASSEMBLE INTO
RESULT SET" />
* ACTIVITY IN PARAMETERS>
#<PARAMETER NODE_ID="27" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING"
PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN">
SPARAM SOURCE PARAM TYPE="VALUE">SELECT
NW COMPONENT ITEM D.COMPONENT ITEM_DESC
COMPONENT ITEM DESC, SUM (NW DISC SHORTAGE_F.QUANTITY_ISSUED)
QUANTITY ISSUED, SUM (NW DISC SHORTAGE F.QUANTITY ON HAND)
QUANTITY ON HAND, SUM(NW DISC SHORTAGE F.QUANTITY_SHORT)
QUANTITY SHORT, SUM(NW DISC SHORTAGE F.REQUIRED_QUANTITY)
REQUIRED QUANTITY FROM NW COMPONENT ITEM D 0
NW COMPONENT ITEM D,NW DISC_SHORTAGE_F_0
NW DISC SHORTAGE F,NW_ORG PERIOD D 0
NW_ORG_PERIOD_D,NW_WIP_ENTITY_D_0 NW_WIP_ENTITY_D WHERE
NW DISC SHORTAGE F.COMPONENT ITEM KEY =
NW COMPONENT ITEM D.COMPONENT ITEM KEY AND
NW DISC SHORTAGE F.ORG_PERIOD_KEY = NW_ORG_PERIOD_D.ORG_PERIOD_KEY
AND NW DISC_SHORTAGE_F.WIP_ENTITY_KEY = NW_WIP_ENTITY D.WIP_ENTITY KEY
AND NW ORG PERIOD D.ORG PERIOD = '#P1#' GROUP BY
NW COMPONENT ITEM D.COMPONENT ITEM DESC HAVING
SUM(NW DISC SHORTAGE F.REQUIRED QUANTITY) > 0 ORDER BY
REQUIRED QUANTITY DESC, COMPONENT ITEM DESC, REQUIRED QUANTITY.
QUANTITY ISSUED, QUANTITY SHORT, QUANTITY ON HAND</PARAM_SOURCE>
```

</PARAMETER>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 75 of 103

FIG. 21D

2104

- <PARAMETER NODE ID="28" PARAM DATA TYPE="STRING" PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="29" PARAM_ DATA_TYPE="STRING"</p> PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">14</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="30" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">15</PARAM_SOURCE> </PARAMETER> \$\alpha \text{PARAMETER NODE_ID="31" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1" PARAM NAME="P1" PARAM TYPE="IN"> PARAM SOURCE PARAM TYPE="ID">17</PARAM SOURCE> !!!</PARAMETER> "<PARAMETER NODE_ID="32" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2"</pre> PARAM_NAME="P2" PARAM_TYPE="IN"> "`<PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER> APARAMETER NODE_ID="33" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3" PARAM_NAME="P3" PARAM TYPE="IN"> #<PARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE_ID="34" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4" PARAM NAME="P4" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="35" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5" PARAM NAME="P5" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER> </ACTIVITY IN PARAMETERS>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 76 of 103

FIG. 21E

2105

- <ACTIVITY_OUT_PARAMETERS>
 <PARAMETER NODE_ID="36" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT DATA" PARAM_NAME="RESULTSET" PARAM_TYPE="OUT">
 <PARAM_SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="37" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="OUT"> <PARAM_SOURCE />
 - </PARAMETER>
 - </ACTIVITY_OUT_PARAMETERS>
- </ACTIVITY>
- <ACTIVITY NODE_ID="39">
- <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"</pre>

ACTIVITY DESCRIPTION="TREND QUERY" />

- ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" DIRECTIVE_NAME="DATA DIRECTIVE" THREADING_EFFECT="STANDARD" DIRECTIVE_ID="DB3"
- DRECTIVE_VERSION="1" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" />
- *ACTIVITY_IN PARAMETERS>
- PARAMETER NODE_ID="40" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN">
- *SPARAM_SOURCE PARAM_TYPE="VALUE">SELECT NW_ORG_PERIOD_D.ORG_PERIOD_NAME,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ISSUED)
- QUANTITY_ISSUED,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ON_HAND)
- QUANTITY_ON_HAND,SUM(NW_DISC_SHORTAGE F.QUANTITY SHORT)
- QUANTITY_SHORT,SUM(NW_DISC_SHORTAGE_F.REQUIRED QUANTITY)
- REQUIRED_QUANTITY FROM NW_DISC_SHORTAGE_F_0 NW_DISC_SHORTAGE_F, NW ORG PERIOD D 0 NW ORG PERIOD D WHERE
- NW_DISC_SHORTAGE_F.ORG_PERIOD_KEY = NW_ORG_PERIOD_D.ORG_PERIOD_KEY
 GROUP BY NW_ORG_PERIOD_D.ORG_PERIOD ORDER BY PERIOD_NAME DESC</P>
 - </PARAMETER>
- <PARAMETER NODE_ID="41" PARAM_DATA_TYPE="STRING"
 PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING"
 PARAM_TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER>

FIG. 21F

- <PARAMETER NODE_ID="42" PARAM_DATA_TYPE="STRING"
 PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME"
 PARAM_TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">14</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="43" PARAM_DATA_TYPE="STRING"
- PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">15</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="44" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1" PARAM NAME="P1" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">17</PARAM_SOURCE>
- </PARAMETER>
- SPARAMETER NODE_ID="45" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2" PARAM NAME="P2" PARAM TYPE="IN">
- INTERPORT I
- /PARAMETER>
- PARAMETER NODE_ID="46" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3" PARAM NAME="P3" PARAM TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
- /PARAMETER>
- -- PARAMETER NODE_ID="47" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4" PARAM_NAME="P4" PARAM_TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
- /PARAMETER>
- -**PARAMETER NODE_ID="48" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5" PARAM NAME="P5" PARAM TYPE="IN">
 - <PARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE>
 - </PARAMETER>
- </ACTIVITY IN PARAMETERS>
- <ACTIVITY OUT PARAMETERS>
- <PARAMETER NODE_ID="49" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT DATA" PARAM_NAME="RESULTSET" PARAM_TYPE="OUT">
 - <PARAM SOURCE />
 - </PARAMETER>
- <PARAMETER NODE_ID="50" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="OUT">
 - <PARAM SOURCE />
 - </PARAMETER>
- </ACTIVITY OUT PARAMETERS>
- </ACTIVITY>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 78 of 103

FIG. 21G

2107

- <ACTIVITY NODE ID="52"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES" ACTIVITY DESCRIPTION="SUMMARY QUERY" /> <activity implementation directive vendor="dpa" directive name="data" DIRECTIVE" THREADING EFFECT="STANDARD" DIRECTIVE_ID="DB3" DIRECTIVE VERSION="1" DIRECTIVE DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" /> - <ACTIVITY IN PARAMETERS> - <PARAMETER NODE ID="53" PARAM DATA TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="VALUE">SELECT NW COMPONENT ITEM D.COMPONENT ITEM DESC COMPONENT ITEM DESC,SUM(NW_DISC_SHORTAGE_F.QUANTITY_ISSUED) QUANTITY ISSUED, SUM(NW DISC SHORTAGE_F.QUANTITY_ON_HAND) QUANTITY ON HAND, SUM(NW DISC SHORTAGE_F.QUANTITY_SHORT) QUANTITY SHORT, SUM (NW DISC SHORTAGE_F. REQUIRED_QUANTITY) REQUIRED QUANTITY FROM NW COMPONENT_ITEM_D_0 NW COMPONENT ITEM D, NW_DISC_SHORTAGE F 0 NW DISC SHORTAGE F,NW ORG PERIOD D_0 NW ORG PERIOD D,NW WIP ENTITY D ONW WIP ENTITY DWHERE NW_DISC_SHORTAGE_F.COMPONENT_ITEM_KEY = NW COMPONENT ITEM D.COMPONENT ITEM KEY AND NW DISC SHORTAGE F.ORG PERIOD KEY = NW ORG PERIOD D.ORG PERIOD KEY AND NW DISC_SHORTAGE F.WIP_ENTITY KEY = NW WIP_ENTITY D.WIP ENTITY KEY AND NW ORG PERIOD D.ORG PERIOD = '#P1#' GROUP BY NW COMPONENT ITEM D.COMPONENT_ITEM_DESC HAVING SUM(NW DISC SHORTAGE F.REQUIRED QUANTITY) > 0 ORDER BY REQUIRED QUANTITY DESC, COMPONENT ITEM DESC, REQUIRED_QUANTITY, QUANTITY ISSUED, QUANTITY SHORT, QUANTITY ON HAND</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE ID="54" PARAM DATA TYPE="STRING" PARAM CAPTION="CONNECTION STRING" PARAM NAME="CONNECTION STRING" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">13</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE ID="55" PARAM DATA TYPE="STRING" PARAM CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">14</PARAM_SOURCE> </PARAMETER>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 79 of 103

FIG. 21H

2108

- <PARAMETER NODE ID="56" PARAM_DATA_TYPE="STRING" PARAM CAPTION="DATABASE PASSWORD" PARAM NAME="PWD" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">15</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="57" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1" PARAM_NAME="P1" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">17</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE ID="58" PARAM DATA TYPE="STRING" PARAM CAPTION="P2" PARAM_NAME="P2" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE ID="59" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3" PARAM NAME="P3" PARAM TYPE="IN"> *PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER> PARAMETER NODE_ID="60" PARAM DATA_TYPE="STRING" PARAM CAPTION="P4" PARAM NAME="P4" PARAM TYPE="IN"> #<PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE> </PARAMETER> =<PARAMETER NODE ID="61" PARAM DATA TYPE="STRING" PARAM CAPTION="P5"</p> PARAM NAME="P5" PARAM TYPE="IN"> PARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE> /PARAMETER> //ACTIVITY_IN PARAMETERS> **ACTIVITY OUT PARAMETERS>** - <PARAMETER NODE ID="62" PARAM DATA TYPE="STRING" PARAM CAPTION="RESULT DATA" PARAM NAME="RESULTSET" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> - <PARAMETER NODE ID="63" PARAM DATA_TYPE="STRING" PARAM_CAPTION="RESULT METADATA" PARAM NAME="RESULTMETADATA" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> </ACTIVITY OUT_PARAMETERS> </ACTIVITY>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 80 of 103

FIG. 21I

```
- <ACTIVITY NODE ID="65">
  <ACTIVITY_HEADER ACTIVITY_NOTES="ACTIVITY NOTES"</pre>
ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"</p>
THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="SAVE RESULTS"
DIRECTIVE_ID="SR1" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1"
DIRECTIVE_DESC="SAVES RESULTS TO REPOSITORY" />
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE_ID="66" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
 </PARAMETER>
- <PARAMETER NODE_ID="67" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT</p>
SET" PARAM_NAME="RESULTSET" PARAM_TYPE="IN">
 PARAM_SOURCE PARAM_TYPE="ID">36</PARAM_SOURCE>

✓/PARAMETER>

 PARAMETER NODE_ID="68" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="IN">
 SPARAM_SOURCE PARAM_TYPE="ID">37</PARAM_SOURCE>
*/PARAMETER>
PARAMETER NODE_ID="69" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
SET NAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN">
 PARAM_SOURCE PARAM_TYPE="VALUE">DETAIL</PARAM_SOURCE>
 /PARAMETER>
 Z/ACTIVITY IN PARAMETERS>
-XACTIVITY OUT PARAMETERS>
PARAMETER NODE_ID="70" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="RESULTSET ID" PARAM_NAME="RESULTSETID" PARAM_TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
 </ACTIVITY OUT PARAMETERS>
 </ACTIVITY>
- <ACTIVITY NODE ID="72">
 <ACTIVITY_HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>
ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />
 <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"</pre>
THREADING EFFECT="STANDARD" DIRECTIVE NAME="SAVE RESULTS"
DIRECTIVE_ID="SR1" DIRECTIVE_TYPE="" DIRECTIVE VERSION="1"
DIRECTIVE_DESC="SAVES RESULTS TO REPOSITORY" />
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 81 of 103

FIG. 21J

- <ACTIVITY_IN_PARAMETERS>
- <PARAMETER NODE_ID="73" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET OWNER" PARAM NAME="OWNER" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="74" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET" PARAM_NAME="RESULTSET" PARAM_TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">49</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="75" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET METADATA" PARAM NAME="RESULTMETADATA" PARAM TYPE="IN">
- <PARAM SOURCE PARAM TYPE="ID">50</PARAM SOURCE>
- /PARAMETER>
- PARAMETER NODE_ID="76" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT
- SET NAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="VALUE">TREND</PARAM_SOURCE>
- </PARAMETER>
- ACTIVITY IN PARAMETERS>
- ACTIVITY_OUT_PARAMETERS>
- PARAMETER NODE_ID="77" PARAM_DATA_TYPE="STRING"
- PARAM_CAPTION="RESULTSET ID" PARAM_NAME="RESULTSETID" PARAM_TYPE="OUT">
 FARAM SOURCE />
- **INVESTIGATION**
- ***/ACTIVITY OUT PARAMETERS>**
- ACTIVITY>
- <activity_header activity_notes="activity notes"
- ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />
 - <ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA"</p>
- THREADING EFFECT="STANDARD" DIRECTIVE NAME="SAVE RESULTS"
- DIRECTIVE ID="SR1" DIRECTIVE TYPE="" DIRECTIVE VERSION="1"
- DIRECTIVE DESC="SAVES RESULTS TO REPOSITORY" />
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE_ID="80" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
 - <PARAM_SOURCE PARAM_TYPE="ID">16</PARAM_SOURCE>
 - </PARAMETER>

FIG. 21K

</PARAMETER>

2111

- <PARAMETER NODE_ID="81" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET" PARAM_NAME="RESULTSET" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM TYPE="ID">62</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE_ID="82" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET METADATA" PARAM_NAME="RESULTMETADATA" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">63</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="83" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULT SET NAME" PARAM_NAME="RESULTNAME" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="VALUE">SUMMARY</PARAM_SOURCE> /PARAMETER> /ACTIVITY IN PARAMETERS> PARAMETER NODE_ID="84" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="RESULTSET ID" PARAM_NAME="RESULTSETID" PARAM_TYPE="OUT"> E>PARAM SOURCE /> </PARAMETER> ACTIVITY OUT PARAMETERS> r::/ACTIVITY> **EXACTIVITY NODE ID="87">** **ACTIVITY_HEADER ACTIVITY NOTES="ACTIVITY NOTES" ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> ACTIVITY_IMPLEMENTATION DIRECTIVE_VENDOR="DPA" THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="PUBLISH PAGE" DIRECTIVE_ID="CR2" DIRECTIVE_TYPE="" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="PUBLISHES PAGE & GRANTS SECURITY" /> - <ACTIVITY IN PARAMETERS> - <PARAMETER NODE_ID="88" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="GRANT SECURITY LIST" PARAM_NAME="SECDOC" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">162</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="89" PARAM_DATA_TYPE="STRING"</p> PARAM_CAPTION="METADATA FOR SECDOC" PARAM_NAME="SECMETA" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">163</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="90" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="GRANT SECURITY LIST" PARAM_NAME="SECCOLNAME" PARAM_TYPE="IN">

<PARAM_SOURCE PARAM_TYPE="VALUE">USERNAME</PARAM_SOURCE>

FIG. 21L

- <PARAMETER NODE_ID="91" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE-OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
 - <PARAM_SOURCE PARAM_TYPE="ID">16
- <PARAMETER NODE_ID="92" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE NAME" PARAM_NAME="PAGENAME" PARAM_TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="VALUE">STARTPAGE
- <PARAMETER NODE_ID="93" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE SLICE NAME" PARAM_NAME="PAGESLICENAME" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="VALUE">FIRST</PARAM_SOURCE> </PARAMETER>
- <PARAMETER NODE_ID="94" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE DEFINITION" PARAM NAME="PAGEDEFN" PARAM TYPE="IN"> PARAM SOURCE PARAM TYPE="VALUE"><DP PAGE DEF><LAYER #AYER_TYPE="HORIZONTAL" LAYER_BORDER="0" LAYER_PADDING="3" AYER_HEIGHT="100%" LAYER_WIDTH="100%"><LAYER LAYER_TYPE="VERTICAL" LAYER_PADDING="3" LAYER_BORDER="0" LAYER_HEIGHT="225" LAYER_WIDTH="100%"><LAYER LAYER_TYPE="WIDGET" LAYER_HEIGHT="100%" AYER_WIDTH="50%"><WIDGET WIDGET_ID="DP_PIE_CHART"><PARAMETERS><PARAM PARAM_NAME="TITLE">MY PIE</PARAM><PARAM PARAM NAME="DSID">#P3#</ PARAM><PARAM PARAM_NAME="VALUECOL">REQUIRED_QUANTITY</PARAM><PARAM PARAM_NAME="LABELCOL">COMPONENT_ITEM DESC</PARAM><PARAM PARAM_NAME="FILTERTYPE">TOP</PARAM><PARAM PARAM_NAME="FILTERVAL">10</ PARAM></PARAMETERS></WIDGET></LAYER><LAYER LAYER_TYPE="WIDGET" AYER HEIGHT="100%" LAYER WIDTH="50%"><WIDGET WIDGET_ID="DP_BAR_CHART2"><PARAMETERS><PARAM PARAM_NAME="TITLE">MY CHART TITLE</PARAM><PARAM PARAM_NAME="DSID">#P2#</PARAM><PARAM PARAM NAME="MEASURECOLS">QUANTITY_ON_HAND|QUANTITY_ISSUED|QUANTITY_SH ORT|REQUIRED_QUANTITY</PARAM><PARAM PARAM_NAME="XAXISLABELS">ON HAND|ISSUED|SHORT|REQUIRED</PARAM><PARAM PARAM_NAME="SERIESCOL">PERIOD_NAME</PARAM></PARAMETERS></WIDGET></ LAYER></LAYER><LAYER LAYER_TYPE="HORIZONTAL" LAYER_BORDER="0" LAYER_PADDING="3" LAYER_HEIGHT="80%" LAYER_WIDTH="100%"><LAYER LAYER_TYPE="WIDGET" LAYER_HEIGHT="100%" LAYER_WIDTH="100%"><WIDGET WIDGET_ID="DP_REPORT_VIEWER"><PARAMETERS><PARAM PARAM_NAME="TITLE">MY TITLE</PARAM> <PARAM PARAM_NAME="DSID">#P1#</PARAM></PARAMETERS></ WIDGET></LAYER></LAYER></DP_PAGE_DEF></PARAM_SOURCE> </PARAMETER>
- <PARAMETER NODE_ID="95" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN RESULTS KEY" PARAM_NAME="P1" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE> </PARAMETER>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 84 of 103

FIG. 21M

- <PARAMETER NODE_ID="96" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN RESULTS KEY" PARAM_NAME="P2" PARAM_TYPE="IN">
 - <PARAM_SOURCE PARAM_TYPE="ID">77</PARAM_SOURCE>
 - </PARAMETER>
- <PARAMETER NODE_ID="97" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN RESULTS KEY" PARAM_NAME="P3" PARAM_TYPE="IN">
 - <PARAM_SOURCE PARAM_TYPE="ID">84</PARAM_SOURCE>
 - </PARAMETER>
- <PARAMETER NODE_ID="98" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN RESULTS KEY" PARAM NAME="P4" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="99" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN RESULTS KEY" PARAM NAME="P5" PARAM TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
- </PARAMETER>
- PARAMETER NODE_ID="100" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="IN RESULTS KEY" PARAM NAME="P6" PARAM TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="ID">70</PARAM_SOURCE>
- .≮/PARAMETER>
- ACTIVITY IN PARAMETERS>
- **E-<ACTIVITY OUT PARAMETERS>**
- PARAMETER NODE_ID="101" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE"
 PARAM_NAME="PAGEID" PARAM_TYPE="OUT">
- FPARAM SOURCE />
- </PARAMETER>
- PARAMETER NODE_ID="102" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE OWNER" PARAM_NAME="OWNER" PARAM_TYPE="OUT">
 - <PARAM_SOURCE />
- </PARAMETER>
- <PARAMETER NODE_ID="103" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE NAME" PARAM_NAME="PAGENAME" PARAM_TYPE="OUT">
 - <PARAM SOURCE />
 - </PARAMETER>
- <PARAMETER NODE_ID="104" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE SLICE NAME" PARAM_NAME="PAGESLICENAME" PARAM_TYPE="OUT">
 - <PARAM SOURCE />
 - </PARAMETER>
- </ACTIVITY_OUT_PARAMETERS>
- </ACTIVITY>

FIG. 21N

```
- <ACTIVITY NODE ID="108">
 <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>
ACTIVITY_DESCRIPTION="OUTOF BOUNDS QTY" />
 <ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p>
THREADING EFFECT="STANDARD" DIRECTIVE NAME="ADVANCED FILTER"
DIRECTIVE_ID="ABFILTER" DIRECTIVE TYPE="" DIRECTIVE VERSION="1"
DIRECTIVE DESC="FILTER RESULTS" />
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE_ID="109" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="FILTER
EXPRESSION" PARAM NAME="FILTER EXP" PARAM TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">#REQUIRED_QUANTITY# > 200</
PARAM SOURCE>
 </PARAMETER>
PARAMETER NODE ID="110" PARAM DATA TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM_NAME="METADOC" PARAM_TYPE="IN">
PARAM_SOURCE PARAM_TYPE="ID">63</PARAM_SOURCE>
</PARAMETER>
PARAMETER NODE ID="111" PARAM DATA TYPE="STRING"
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="IN">
PARAM SOURCE PARAM TYPE="ID">62</PARAM SOURCE>
</PARAMETER>
ACTIVITY OUT PARAMETERS>
PARAMETER NODE ID="112" PARAM DATA TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM NAME="METADOC"
PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="113" PARAM DATA TYPE="STRING"</p>
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="114" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ROW
COUNT" PARAM_NAME="ROWCOUNT" PARAM_TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
 </ACTIVITY OUT PARAMETERS>
 </ACTIVITY>
```

FIG. 210

```
- <ACTIVITY NODE ID="116">
 <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>
ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />
 <ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p>
THREADING EFFECT="STANDARD" DIRECTIVE NAME="TEXT EMAILER"
DIRECTIVE ID="TEXTEMAILER" DIRECTIVE TYPE="" DIRECTIVE VERSION="1"
DIRECTIVE_DESC="TEXT EMAILER" />
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE ID="117" PARAM DATA TYPE="STRING"
PARAM CAPTION="SUBJECT EXPRESSION" PARAM NAME="SUBJECT EXP"
PARAM TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">OUT OF BOUNDS QTY CONDITION
PARAM SOURCE>
/PARAMETER>
PARAMETER NODE ID="118" PARAM_DATA_TYPE="STRING"
PARAM_CAPTION="MESSAGE EXPRESSION" PARAM_NAME="MESSAGE EXP"
PARAM TYPE="IN">
PARAM SOURCE PARAM TYPE="VALUE">COMPONENT: #COMPONENT ITEM DESC#
REQUIRES #REQUIRED_QUANTITY# ADDITIONAL UNITS</PARAM SOURCE>
/PARAMETER>
 PARAMETER NODE ID="119" PARAM_DATA TYPE="STRING" PARAM CAPTION="EMAIL
ADDRESSES" PARAM NAME="EMAIL ADDRESSES" PARAM TYPE="IN">
FARAM_SOURCE PARAM_TYPE="VALUE">EXH@DPAPPLICATIONS.COM</
PARAM SOURCE>
PARAMETER NODE ID="120" PARAM DATA TYPE="STRING" PARAM CAPTION="SEND"
FROM ADDRESS" PARAM_NAME="FROM ADDRESS" PARAM TYPE="IN">
 <PARAM SOURCE PARAM TYPE="VALUE">DF@DPAPPLICATIONS.COM</
PARAM SOURCE>
 </PARAMETER>
- <PARAMETER NODE ID="121" PARAM DATA TYPE="STRING"</li>
PARAM_CAPTION="RESULTS METADATA" PARAM_NAME="METADOC" PARAM_TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="ID">112</PARAM_SOURCE>
</PARAMETER>
- <PARAMETER NODE ID="122" PARAM DATA TYPE="STRING"</li>
PARAM CAPTION="RESULTS" PARAM NAME="RESULTSDOC" PARAM TYPE="IN">
<PARAM_SOURCE PARAM_TYPE="ID">113</PARAM_SOURCE>
 </PARAMETER>
</ACTIVITY IN PARAMETERS>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 87 of 103

FIG. 21P

</PARAMETER>

2116

- <ACTIVITY OUT PARAMETERS> - <PARAMETER NODE_ID="123" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ERROR</p> MESSAGES" PARAM NAME="ERROR" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> </ACTIVITY OUT PARAMETERS> </ACTIVITY> - <ACTIVITY NODE ID="125"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p> ACTIVITY DESCRIPTION="EMAIL LINK" /> <ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p> THREADING EFFECT="STANDARD" DIRECTIVE NAME="SMTP EMAIL DIRECTIVE" DIRECTIVE ID="MB2" DIRECTIVE TYPE="" DIRECTIVE VERSION="1" DIRECTIVE DESC="SEND PUBLISHED PAGES" /> ACTIVITY_IN_PARAMETERS> PARAMETER NODE_ID="126" PARAM_DATA_TYPE="STRING" PARAM CAPTION="EMAIL ADDRESSES" PARAM NAME="ADDRDOC" PARAM TYPE="IN"> PARAM_SOURCE PARAM_TYPE="ID">162</PARAM_SOURCE> /PARAMETER> PARAMETER NODE ID="127" PARAM DATA TYPE="STRING" PARAM_CAPTION="METADATA FOR ADDRDOC" PARAM_NAME="ADDRMETA" PARAM TYPE="IN"> PARAM_SOURCE PARAM_TYPE="ID">163</PARAM_SOURCE> </PARAMETER> PARAMETER NODE ID="128" PARAM DATA TYPE="STRING" PARAM CAPTION="EMAIL COLUMN NAME" PARAM_NAME="ADDRCOLNAME" PARAM_TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="VALUE">EMAIL_ADDRESS</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE ID="129" PARAM DATA TYPE="STRING" PARAM CAPTION="EMAIL COLUMN NAME" PARAM NAME="IDCOLNAME" PARAM TYPE="IN"> <PARAM_SOURCE PARAM_TYPE="VALUE">USERNAME</PARAM_SOURCE> </PARAMETER> - <PARAMETER NODE_ID="130" PARAM DATA TYPE="STRING" PARAM CAPTION="SUBJECT" PARAM NAME="SUBJECT" PARAM TYPE="IN"> <PARAM_SOURCE PARAM TYPE="VALUE">QTY ANALYSIS UPDATED</PARAM SOURCE>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 88 of 103

FIG. 21Q

- <PARAMETER NODE_ID="131" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE OWNER" PARAM_NAME="OWNER" PARAM_TYPE="IN">
 - <PARAM SOURCE PARAM TYPE="ID">102</PARAM SOURCE>
 - </PARAMETER>
- <PARAMETER NODE_ID="132" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE NAME" PARAM NAME="PAGENAME" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">103</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="133" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="PAGE INSTANCE" PARAM NAME="PAGEINST" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">104</PARAM_SOURCE>
- </PARAMETER>
- PARAMETER NODE_ID="134" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="MAIL FORMAT" PARAM NAME="FORMAT" PARAM TYPE="IN">
- PARAM SOURCE PARAM TYPE="VALUE">DYNAM</PARAM SOURCE>
- </PARAMETER>
- PARAMETER NODE_ID="135" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="SEND FROM MAIL ADDRESS" PARAM NAME="SENDFROM" PARAM TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="VALUE">DF@DPAPPLICATIONS.COM</
- PARAM SOURCE>
- ACTIVITY IN PARAMETERS>
- ACTIVITY OUT PARAMETERS>
- PARAMETER NODE_ID="136" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ERROR MESSAGES" PARAM_NAME="ERROR_MSG" PARAM_TYPE="OUT">
 - <PARAM SOURCE />
 - </PARAMETER>
 - </ACTIVITY OUT PARAMETERS>
 - </ACTIVITY>
- <ACTIVITY NODE ID="152">
- <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>
- ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />
 - <activity implementation directive vendor="dpa"
- THREADING_EFFECT="STANDARD" DIRECTIVE_NAME="DATA DIRECTIVE"
 DIRECTIVE_ID="DB3" DIRECTIVE_VERSION="1" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" />

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 89 of 103

FIG. 21R

- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE_ID="153" PARAM_DATA_TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="VALUE">SELECT USERNAME,EMAIL_ADDRESS FROM
 OA3.DF QTYAPP USERS
 - </PARAMETER>
- <PARAMETER NODE ID="154" PARAM DATA TYPE="STRING"
- PARAM_CAPTION="CONNECTION STRING" PARAM_NAME="CONNECTION_STRING" PARAM TYPE="IN">
 - <PARAM SOURCE
- PARAM_TYPE="VALUE">JDBC:ORACLE:THIN:@HD.DPAPPLICATIONS.COM:1521:NRB816</P>
 - </PARAMETER>
- <PARAMETER NODE ID="155" PARAM DATA TYPE="STRING"
- PARAM_CAPTION="DATABASE USER NAME" PARAM_NAME="USERNAME"
- PARAM_TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="VALUE">OA3</PARAM_SOURCE>
- </PARAMETER>
- PARAMETER NODE ID="156" PARAM DATA TYPE="STRING"
- PARAM_CAPTION="DATABASE PASSWORD" PARAM_NAME="PWD" PARAM_TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="VALUE">OA3</PARAM_SOURCE>
- </PARAMETER>
- PARAMETER NODE_ID="157" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P1" PARAM NAME="P1" PARAM TYPE="IN">
- PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
- </PARAMETER>
- PARAMETER NODE_ID="158" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P2"
 PARAM NAME="P2" PARAM TYPE="IN">
 - <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
 - </PARAMETER>
- <PARAMETER NODE_ID="159" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P3" PARAM_NAME="P3" PARAM_TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="160" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P4" PARAM NAME="P4" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
- </PARAMETER>
- <PARAMETER NODE_ID="161" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="P5" PARAM NAME="P5" PARAM TYPE="IN">
- <PARAM_SOURCE PARAM_TYPE="ID">13</PARAM_SOURCE>
- </PARAMETER>
- </ACTIVITY_IN_PARAMETERS>

FIG. 21S

```
- <ACTIVITY OUT PARAMETERS>
- <PARAMETER NODE ID="162" PARAM DATA TYPE="STRING"
PARAM CAPTION="RESULT DATA" PARAM NAME="RESULTSET" PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
- <PARAMETER NODE ID="163" PARAM DATA TYPE="STRING"
PARAM CAPTION="RESULT METADATA" PARAM NAME="RESULTMETADATA"
PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
 </ACTIVITY OUT PARAMETERS>
 </ACTIVITY>
C
C
C
C
D
F
WORKFLOW
ACTIVITIES
C
COP WORKFLOW TRANSITIONS
TRANSITION NODE ID="24" FROM ACTIVITY ID="11" TO ACTIVITY ID="18"
FRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
!<TRANSITION NODE ID="25" FROM ACTIVITY ID="11" TO ACTIVITY ID="21"</p>
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
<TRANSITION NODE ID="71" FROM ACTIVITY ID="26" TO ACTIVITY ID="65"</p>
*TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
CTRANSITION NODE ID="78" FROM ACTIVITY ID="39" TO ACTIVITY ID="72"
#RANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
<TRANSITION NODE ID="85" FROM ACTIVITY ID="52" TO ACTIVITY ID="79"</p>
#RANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
TRANSITION NODE ID="105" FROM ACTIVITY ID="65" TO ACTIVITY ID="87"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE ID="106" FROM ACTIVITY ID="72" TO ACTIVITY ID="87"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="107" FROM_ACTIVITY_ID="79" TO_ACTIVITY_ID="87"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE ID="115" FROM ACTIVITY ID="52" TO ACTIVITY ID="108"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE ID="124" FROM ACTIVITY ID="108" TO ACTIVITY ID="116"
TRANSITION EXPRESSION="#114# > "0"" DESCRIPTION="EMAIL ONLY EXCEPTIONS"
NOTES="NOTES" />
```

FIG. 21T

2120

<TRANSITION NODE ID="137" FROM ACTIVITY ID="87" TO ACTIVITY ID="125" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="164" FROM ACTIVITY ID="18" TO ACTIVITY ID="152" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="165" FROM ACTIVITY ID="21" TO ACTIVITY ID="152" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="166" FROM ACTIVITY ID="152" TO ACTIVITY ID="26" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="167" FROM ACTIVITY ID="152" TO ACTIVITY ID="39" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="168" FROM ACTIVITY ID="152" TO ACTIVITY ID="52" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> </DF WORKFLOW TRANSITIONS> ACTIVITY_VISUAL_EDITING NODE ID="11" YCOORD="140" XCOORD="12" /> ACTIVITY VISUAL EDITING NODE ID="18" YCOORD="330" XCOORD="47" /> ******ACTIVITY VISUAL EDITING NODE ID="21" YCOORD="50" XCOORD="60" /> ACTIVITY VISUAL EDITING NODE ID="39" YCOORD="70" XCOORD="294" /> ACTIVITY VISUAL_EDITING NODE_ID="52" YCOORD="320" XCOORD="304" /> <ACTIVITY VISUAL EDITING NODE ID="65" YCOORD="200" XCOORD="408" /> ACTIVITY VISUAL EDITING NODE ID="72" YCOORD="70" XCOORD="408" /> ACTIVITY VISUAL EDITING NODE ID="79" YCOORD="320" XCOORD="428" /> ACTIVITY VISUAL EDITING NODE ID="87" YCOORD="200" XCOORD="537" /> <ACTIVITY VISUAL EDITING NODE ID="108" YCOORD="430" XCOORD="359" /> <ACTIVITY VISUAL EDITING NODE ID="116" YCOORD="420" XCOORD="587" /> <ACTIVITY VISUAL EDITING NODE ID="125" YCOORD="320" XCOORD="580" /> <ACTIVITY VISUAL EDITING NODE ID="152" YCOORD="200" XCOORD="160" /> </DF WORKFLOW EDITOR> </DF WORKFLOW>

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 92 of 103

FIG. 22A

```
<DP QUERY DEF VERSION="1">
   <DPA IDENTIFIERS DATA SET="OAS" WH OWNER_NAME="PART"/>
   <HINTS/>
   <COLUMN DEFS>
    <COLUMN_DEF SUMMARY_TYPE="SUM" COLUMN_NAME="PTD_BUDGET"</pre>
COLUMN ALIAS="PTD BUDGET" COLUMN SORT ORDER="3"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="3" TABLE ALIAS="INCOME STMT_A" COLUMN_TAG="PTD_BUDGET"/
    <COLUMN DEF SUMMARY TYPE="NONE" COLUMN NAME="LINE NAME"</p>
COLUMN ALIAS="LINE NAME" COLUMN SORT ORDER="1"
COLUMN SORT ATTRIBUTE="ASC" COLUMN TYPE="ATTRIBUTE" COLUMN EXPR=""
COLUMN POSITION="1" TABLE ALIAS="INC STMT LINES D" COLUMN TAG="LINE NAME"/
ű
    <COLUMN DEF SUMMARY TYPE="SUM" COLUMN NAME="PTD VARIANCE PCT"</p>
COLUMN ALIAS="PTD VARIANCE PCT" COLUMN SORT ORDER="6"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="6" TABLE ALIAS="INCOME STMT A"
COLUMN TAG="PTD VAR PCT"/>
    <COLUMN DEF SUMMARY TYPE="NONE" COLUMN_NAME="DEPARTMENT_DESC"</p>
COLUMN ALIAS="DEPT DESC" COLUMN SORT ORDER="2"
COLUMN SORT ATTRIBUTE="ASC" COLUMN TYPE="ATTRIBUTE" COLUMN EXPR=""
COLUMN POSITION="2" TABLE ALIAS="DEPARTMENT D" COLUMN TAG="DEPT_DESC"/>
    <COLUMN DEF SUMMARY TYPE="SUM" COLUMN NAME="PTD VARIANCE"</p>
COLUMN ALIAS="PTD VARIANCE" COLUMN SORT ORDER="5"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="5" TABLE ALIAS="INCOME_STMT_A" COLUMN_TAG="PTD_VAR"/>
    <COLUMN DEF SUMMARY TYPE="SUM" COLUMN NAME="PTD ACTUAL"</p>
COLUMN ALIAS="PTD ACTUAL" COLUMN SORT ORDER="4"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="4" TABLE ALIAS="INCOME_STMT_A" COLUMN TAG="PTD_ACTUAL"/
>
   </COLUMN DEFS>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 93 of 103

FIG. 22B

```
<TABLE DEFS>
    <TABLE DEF TABLE_ALIAS="VENDOR_D" TABLE NAME="VENDOR D"/>
    <TABLE DEF TABLE ALIAS="AP INV DETAIL F" TABLE NAME="AP INV DETAIL F"/>
    <TABLE_DEF TABLE_ALIAS="INCOME STMT A" TABLE NAME="INCOME STMT A"/>
    <TABLE DEF TABLE ALIAS="DEPARTMENT D" TABLE NAME="DEPARTMENT_D"/>
    <TABLE DEF TABLE ALIAS="INC STMT LINES D"
TABLE NAME="INC STMT LINES_D"/>
   </TABLE DEFS>
   <DETAIL FILTERS>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="PERIOD KEY"</pre>
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER PREC_OPER="AND" FILTER OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">DEC-97</FILTER VALUE>
    </FILTER>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="VENDOR TYPE"</pre>
TABLE ALIAS="VENDOR D" FILTER PREC OPER="AND" FILTER_OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">EMPLOYEE</FILTER_VALUE>
</FILTER>
    <FILTER FILTER TYPE="VALUE" COLUMN_TEXT="COMPANY_KEY"
TABLE ALIAS="AP INV DETAIL F" FILTER PREC OPER="AND" FILTER OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">01</FILTER VALUE>
M
    </FILTER>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="DEPARTMENT KEY"
TABLE ALIAS="AP INV DETAIL F" FILTER PREC OPER="AND" FILTER_OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">560</FILTER VALUE>
</FILTER>
   </DETAIL FILTERS>
   <AGGREGATE FILTERS>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="SUM(INVOICE LINE AMOUNT)"</pre>
TABLE_ALIAS="AP_INV_DETAIL_F" FILTER PREC OPER="AND"
FILTER OPERATOR=">">
      <FILTER_VALUE VALUE_DATA_TYPE="NUMBER">0</FILTER_VALUE>
    </FILTER>
   </AGGREGATE FILTERS>
 </DP QUERY DEF>
```

FIG. 23A

```
- <DP SCHEMA DOC VERSION="1">
   <DPA QUERY SERVER INFO SERVICE="DPA_QUERY_SERVER" MACHINE="EXH_2K"</p>
PORT="8069" WAREHOUSE SERVER="HD.DPAPPLICATIONS.COM"
WAREHOUSE DBNAME="DEMO30" WAREHOUSE OWNER="RROC"
SCHEMA="AP INV DETAIL_F" DATA_SET="NW">FOODADDY</
DPA QUERY SERVER INFO>
- <DP DIMENSIONS>
- <DIMENSION LABEL="ACCOUNTING DATE" NAME="ACCOUNTING DATE D">
   <a tribute label="accounting date key" name="accounting date key" />
   <a tribute label="accounting month" name="accounting month" />
   <a tribute label="accounting period" name="accounting period" />
   <a tribute label="accounting period key"
 NAME="ACCOUNTING PERIOD KEY" />
   <ATTRIBUTE LABEL="ACCOUNTING PERIOD QUARTER"</p>
NAME="ACCOUNTING PERIOD QUARTER" />
ATTRIBUTE LABEL="ACCOUNTING QUARTER" NAME="ACCOUNTING QUARTER" />
SECOUNTING WEEK ENDING
NAME="ACCOUNTING WEEK ENDING" />
</DIMENSION>
* ATTRIBUTE LABEL="ACCOUNT" NAME="ACCOUNT" />
<ATTRIBUTE LABEL="LINE NAME" NAME="LINE NAME" />
"<ATTRIBUTE LABEL="LINE SEQUENCE KEY" NAME="LINE SEQUENCE KEY" />
SATTRIBUTE LABEL="REPORT SEQUENCE" NAME="REPORT SEQUENCE" />
<ATTRIBUTE LABEL="ACCOUNT KEY" NAME="ACCOUNT KEY" />
   <ATTRIBUTE LABEL="ACCOUNT DESCRIPTION" NAME="ACCOUNT DESC" />
   </DIMENSION>
- <DIMENSION LABEL="ACCOUNT ROLLUPS" NAME="ACCOUNT RLUP D">
   <attribute label="account" name="account" />
   <a tribute label="account key" name="account key" />
   <ATTRIBUTE LABEL="ACCOUNT ROLLUP DESCRIPTION" NAME="ROLLUP DESC" />
   <a href="ACCOUNT ROLLUP CODE" NAME="ROLLUP CODE" />
   <a tribute label="account description" name="account desc" />
   </DIMENSION>
 - <DIMENSION LABEL="AP HOLD CODES" NAME="AP HOLD CODE D">
   <a triangle <a tri
   <a href="AP HOLD CODE DESCRIPTION" NAME="AP HOLD CODE DESC" | ATTRIBUTE LABEL="AP HOLD CODE DESC" |
   <a href="AP HOLD CODE KEY" NAME="AP HOLD CODE KEY" />
   <a triangle <a><a triangle <a triangle <a><a triangle <a triangle 
   </DIMENSION>
```

FIG. 23B

```
- <DIMENSION LABEL="AP HOLD STATUS" NAME="AP HOLD STATUS D">
  <a tribute label="AP HOLD STATUS" NAME="AP HOLD STATUS" />
  <ATTRIBUTE LABEL="AP HOLD STATUS KEY" NAME="AP HOLD STATUS KEY" />
  </DIMENSION>
- <DIMENSION LABEL="AP INVOICES" NAME="AP INVOICE D">
  <a tribute label="AP INVOICE NUMBER" NAME="AP INVOICE" />
  <a tribute label="AP INVOICE DATE" NAME="AP INVOICE DATE" />
  <a tribute label="ap invoice key" name="ap_invoice_key" />
  </DIMENSION>
- <DIMENSION LABEL="AP INVOICE TYPES" NAME="AP INVOICE TYPE D">
  <a tribute label="AP INVOICE TYPE" NAME="AP INVOICE TYPE" />
  <attribute label="ap invoice type key" name="ap invoice type key" />
   </DIMENSION>
---<DIMENSION LABEL="AP PAYMENT TERMS" NAME="AP PAYMENT TERM D">
ATTRIBUTE LABEL="AP PAYMENT TERM" NAME="AP PAYMENT TERM" />
ATTRIBUTE LABEL="AP PAYMENT TERM DESCRIPTION"
NAME="AP PAYMENT TERM DESC" />
ATTRIBUTE LABEL="AP PAYMENT TERM KEY" NAME="AP_PAYMENT_TERM_KEY" />
!!</DIMENSION>
CDIMENSION LABEL="PO AUTHORIZER" NAME="AUTHORIZER_D">
ATTRIBUTE LABEL="AUTHORIZER" NAME="AUTHORIZER" />
*= <ATTRIBUTE LABEL="AUTHORIZER KEY" NAME="AUTHORIZER KEY" />

</p
COMENSION LABEL="BUYERS" NAME="BUYER D">
@<ATTRIBUTE LABEL="BUYER" NAME="BUYER" />
ATTRIBUTE LABEL="AUTHORIZATION LIMIT" NAME="BUYER_AUTHORIZATION_LIMIT"
17>
   <a href="ATTRIBUTE LABEL="END DATE ACTIVE" NAME="BUYER END DATE ACTIVE" />
   <a tribute label="buyer key" name="buyer key" />
   <a triver | <a tri
   </DIMENSION>
 - <DIMENSION LABEL="COMPANY" NAME="COMPANY D">
   <a tribute label="company" name="company" />
   <a tribute label="company description" name="company desc" />
   <a tribute label="company key" name="company key" />
   </DIMENSION>
 - < DIMENSION LABEL="CURRENCY" NAME="CURRENCY D">
   <a tribute label="currency" name="currency" />
   <a tribute label="currency description" name="currency desc" />
   <ATTRIBUTE LABEL="CURRENCY KEY" NAME="CURRENCY KEY" />
   </DIMENSION>
```

2303

FIG. 23C

```
- <DIMENSION LABEL="DEPARTMENT" NAME="DEPARTMENT D">
  <attribute label="department" name="department" />
  <a tribute label="department key" name="department key" />
  <a href="https://www.ncmin.com/name="department">ATTRIBUTE LABEL="DEPARTMENT DESC" />
  </DIMENSION>
- <DIMENSION LABEL="DEPARTMENT ROLLUPS" NAME="DEPARTMENT_RLUP_D">
  <attribute label="department" name="department" />
  <a tribute label="department rollup desc" name="rollup desc" />
  <a href="https://www.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.
  <a href="https://www.newliber.com/">ATTRIBUTE LABEL="DEPARTMENT DESC" />
  <attribute label="department key" name="department_key" />
  </DIMENSION>
- <DIMENSION LABEL="AP DUE DATES" NAME="DUE DATE_D">
<ATTRIBUTE LABEL="DUE DATE KEY" NAME="DUE DATE KEY" />
<ATTRIBUTE LABEL="DUE MONTH" NAME="DUE MONTH" />
ATTRIBUTE LABEL="DUE PERIOD" NAME="DUE PERIOD" />
!!<ATTRIBUTE LABEL="DUE PERIOD KEY" NAME="DUE PERIOD KEY" />
ATTRIBUTE LABEL="DUE PERIOD QUARTER" NAME="DUE_PERIOD_QUARTER" />
<ATTRIBUTE LABEL="DUE QUARTER" NAME="DUE QUARTER" />
ATTRIBUTE LABEL="DUE WEEK ENDING" NAME="DUE_WEEK_ENDING" />
ATTRIBUTE LABEL="DUE YEAR" NAME="DUE_YEAR" />
</DIMENSION>
E<DIMENSION LABEL="INVOICE DATES" NAME="INVOICE DATE D">
SATTRIBUTE LABEL="INVOICE DATE KEY" NAME="INVOICE DATE KEY" />
<ATTRIBUTE LABEL="INVOICE PERIOD" NAME="INVOICE PERIOD" />
***<ATTRIBUTE LABEL="INVOICE PERIOD KEY" NAME="INVOICE PERIOD_KEY" />
  <a tribute label="Invoice Period Quarter"
NAME="INVOICE PERIOD QUARTER" />
  <attribute label="invoice quarter" name="invoice quarter" />
  <ATTRIBUTE LABEL="INVOICE WEEK ENDING" NAME="INVOICE WEEK ENDING" />
  <a tribute label="invoice year" name="invoice year" />
  </DIMENSION>
- <DIMENSION LABEL="JE BATCHS" NAME="JE BATCH D">
  <a tribute label="actual flag" name="actual flag" />
  <a tribute label="default period name" name="default period name" />
  <attribute label="je batch key" name="je batch key" />
  <ATTRIBUTE LABEL="NAME" NAME="NAME" />
  <attribute label="org id" name="org id" />
  <a tribute label="description" name="description" />
  <attribute label="date created" name="date_created" />
   </DIMENSION>
```

FIG. 23D

```
- <DIMENSION LABEL="ORGANIZATIONS" NAME="ORGANIZATION D">
 <a tribute label="organization" name="organization" />
 <a tribute label="organization key" name="organization key" />
 <a tribute label="organization type" name="organization type" />
 </DIMENSION>
- <DIMENSION LABEL="PA PROJECTS" NAME="PA_PROJECT_D">
 <attribute label="project key" name="pa_project_key" />
 <a href="ATTRIBUTE LABEL="PROJECT COMPLETE DATE"
NAME="PROJECT COMPLETE DATE" />
 <a href="PROJECT MANAGER" NAME="PROJECT_MANAGER" />
 <ATTRIBUTE LABEL="PROJECT NAME" NAME="PROJECT_NAME" />
 <a href="PROJECT NUMBER" NAME="PROJECT NUMBER" />
 <a tribute label="project officer" name="project officer" />
<ATTRIBUTE LABEL="PROJECT SPONSOR" NAME="PROJECT_SPONSOR" />
<ATTRIBUTE LABEL="PROJECT START DATE" NAME="PROJECT_START_DATE" />
 <a tribute label="project status" name="project status" />
<ATTRIBUTE LABEL="PROJECT TITLE" NAME="PROJECT TITLE" />
<ATTRIBUTE LABEL="PROJECT TYPE" NAME="PROJECT_TYPE" />
/DIMENSION>
III < DIMENSION LABEL="PA TASKS" NAME="PA TASK D">
<ATTRIBUTE LABEL="PARENT TASK KEY" NAME="PARENT TASK KEY" />
<ATTRIBUTE LABEL="TASK LOCATION" NAME="TASK LOCATION" />
<attribute label="task name" name="task_name" />
 <ATTRIBUTE LABEL="TASK MANAGER" NAME="TASK MANAGER" />
<ATTRIBUTE LABEL="TOP TASK NAME" NAME="TOP TASK NAME" />
<ATTRIBUTE LABEL="TOP TASK KEY" NAME="TOP_TASK KEY" />
  <ATTRIBUTE LABEL="TASK WBS" NAME="TASK_WBS" />
 <ATTRIBUTE LABEL="TASK START DATE" NAME="TASK START DATE" />
  <ATTRIBUTE LABEL="TASK NUMBER" NAME="TASK NUMBER" />
  <ATTRIBUTE LABEL="TASK DESCRIPTION" NAME="TASK_DESC" />
  <ATTRIBUTE LABEL="PARENT TASK NAME" NAME="PARENT_TASK_NAME" />
  <a tribute label="project key" name="pa project key" />
  <ATTRIBUTE LABEL="TASK COMPLETE DATE" NAME="TASK_COMPLETE_DATE" />
  <attribute label="task key" name="pa_task_key" />
  </DIMENSION>
```

FIG. 23E

```
- < DIMENSION LABEL="PERIODS" NAME="PERIOD D">
   <attribute label="Period" name="Period" />
   <a href="PERIOD END DATE" NAME="PERIOD END DATE" />
   <a tribute label="period key" name="period key" />
   <ATTRIBUTE LABEL="PERIOD START DATE" NAME="PERIOD START DATE" />
   <a href="PERIOD TYPE" NAME="PERIOD TYPE" />
   <attribute label="Quarter" name="Quarter" />
   <attribute label="Year" name="Year" />
   </DIMENSION>
 - <DIMENSION LABEL="PRODUCT" NAME="PRODUCT D">
   <ATTRIBUTE LABEL="PRODUCT" NAME="PRODUCT" />
   <a tribute label="product description" name="product_desc" />
   <attribute label="product key" name="product_key" />
/DIMENSION>
COMENSION LABEL="PA PROJECT CLASSES" NAME="PROJECT CLASS D">
<ATTRIBUTE LABEL="PROJECT CLASS CATEGORY"</p>
NAME="PROJECT_CLASS_CATEGORY" />
<ATTRIBUTE LABEL="PROJECT CLASS CODE" NAME="PROJECT_CLASS_CODE" />
ATTRIBUTE LABEL="PROJECT CLASS DESCRIPTION"
NAME="PROJECT CLASS DESCRIPTION" />
<ATTRIBUTE LABEL="PROJECT KEY" NAME="PROJECT_KEY" />
Column | Column 
<DIMENSION LABEL="PO REQUESTORS" NAME="REQUESTOR_D">
<ATTRIBUTE LABEL="REQUESTOR" NAME="REQUESTOR" />
<ATTRIBUTE LABEL="REQUESTOR KEY" NAME="REQUESTOR_KEY" />
- <DIMENSION LABEL="SUB-ACCOUNT" NAME="SUB ACCOUNT D">
    <a href="ATTRIBUTE LABEL="SUB-ACCOUNT" NAME="SUB ACCOUNT" />
    <a href="ATTRIBUTE LABEL="SUB-ACCOUNT KEY" NAME="SUB ACCOUNT KEY" />
    <a tribute label="Sub-account description" name="Sub-account desc" />
    </DIMENSION>
 - <DIMENSION LABEL="AP VENDORS" NAME="VENDOR D">
    <attribute label="active end date" name="active end date" />
    <attribute label="active flag" name="active flag" />
    <attribute label="active start date" name="active start date" />
    <a href="https://www.enury.com/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial/arterial
    <a tribute label="vendor site address line2" name="address line2" />
    <a tribute label="vendor site address line3" name="address line3" />
    <a tribute label="vendor site area code" name="area code" />
    <a tribute label="vendor site city" name="city" />
    <a tribute label="vendor hold reason" name="hold reason" />
    <a tribute label="vendor site phone number" name="phone number" />
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 99 of 103

FIG. 23F

```
<attribute label="vendor site province" name="province" />
  <attribute label="vendor site state" name="state" />
  <attribute label="vendor tax federal flag"
NAME="TAX FEDERAL REPORT FLAG" />
  <a tribute label="Vendor Tax reporting name"
NAME="TAX REPORTING NAME" />
  <a href=""><ATTRIBUTE LABEL="VENDOR TAX STATE FLAG" NAME="TAX STATE REPORT FLAG"</a>
  <ATTRIBUTE LABEL="VENDOR 1099 NUMBER" NAME="VENDOR 1099 NUM" />
  <a href=""><a href=""><a href=""><a href=""><a href=""><a href="><a href="><
  <a tribute label="Vendor corporate group"
 NAME="VENDOR CORPORATE GROUP" />
   <attribute label="vendor industry class"
*NAME="VENDOR INDUSTRY CLASS" />
S<ATTRIBUTE LABEL="VENDOR KEY" NAME="VENDOR KEY" />
ATTRIBUTE LABEL="VENDOR NAME" NAME="VENDOR NAME" />
W<ATTRIBUTE LABEL="VENDOR NUMBER" NAME="VENDOR NUMBER" />
$\frac{1}{2} < ATTRIBUTE LABEL="VENDOR ORGANIZATION TYPE" NAME="VENDOR ORG TYPE" />
<ATTRIBUTE LABEL="VENDOR PAYMENT PRIORITY"</p>
 NAME="VENDOR PAYMENT PRIORITY" />
  <attribute label="vendor pay group" name="vendor pay group" />
ATTRIBUTE LABEL="VENDOR SITE CODE" NAME="VENDOR SITE CODE" />
ATTRIBUTE LABEL="VENDOR SITE KEY" NAME="VENDOR_SITE_KEY" />
<ATTRIBUTE LABEL="VENDOR SITE ZIP" NAME="ZIP" />
/DIMENSION>
<DIMENSION LABEL="AP INVOICE DETAILS" NAME="AP_INV_DETAIL_F">
   <attribute label="accounting date" name="accounting date" />
   <ATTRIBUTE LABEL="ACCOUNTING DATE KEY" NAME="ACCOUNTING DATE KEY" />
   <attribute label="account key" name="account key" />
   <a tribute label="approval status" name="approval status" />
   <a tribute label="Ap invoice key" name="ap invoice key" />
   <attribute label="ap invoice type key" name="ap invoice type key" />
   <attribute label="ap payment term key" name="ap_payment_term_key" />
   <a tribute label="buyer key" name="buyer key" />
   <a tribute label="company key" name="company key" />
   <a tribute label="invoice currency code" name="currency key" />
   <a tribute label="department key" name="department_key" />
   <attribute label="due date" name="due date" />
   <a tribute label="due date key" name="due date key" />
   <a tribute label="total invoice amount" name="invoice amount" />
```

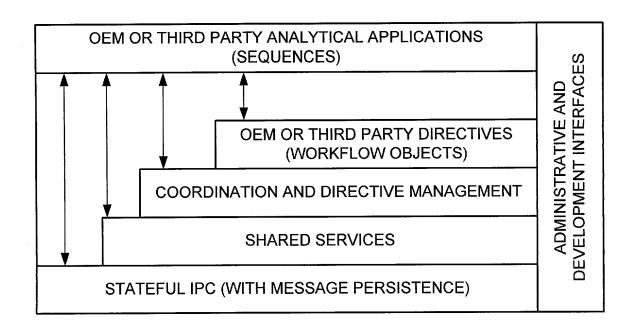
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 100 of 103

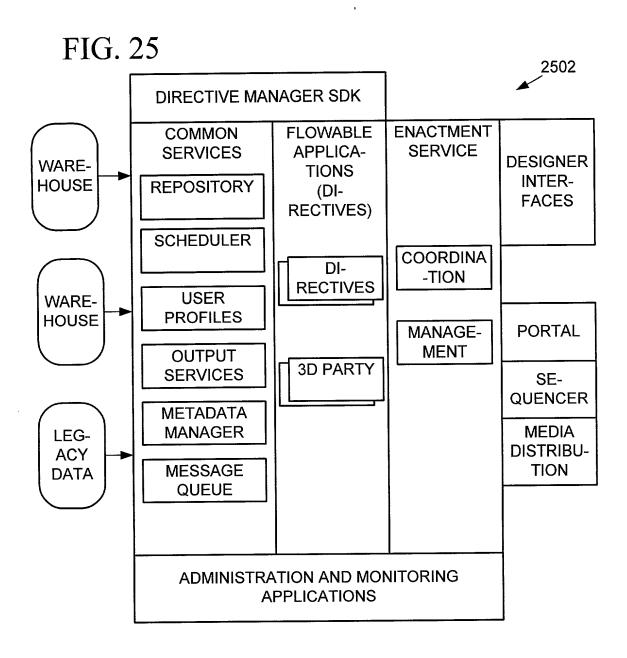
FIG. 23G

```
<ATTRIBUTE LABEL="INVOICE DATE" NAME="INVOICE_DATE" />
  <a href="INVOICE DATE KEY" NAME="INVOICE DATE KEY" />
  <a href="INVOICE DESCRIPTION" NAME="INVOICE DESC" />
  <a href="INVOICE ID KEY" NAME="INVOICE ID KEY" />
  <a href="INVOICE LINE DESCRIPTION" NAME="INVOICE LINE DESC" />
  <a href="INVOICE LINE NUMBER" NAME="INVOICE LINE NUMBER" />
  <a tribute label="invoice line type" name="invoice line type" />
  <ATTRIBUTE LABEL="INVOICE NUMBER" NAME="INVOICE NUMBER" />
  <ATTRIBUTE LABEL="INVOICE TAX AMOUNT" NAME="INVOICE TAX AMOUNT" />
  <a tribute label="organization key" name="organization key" />
  <ATTRIBUTE LABEL="PAID AMOUNT" NAME="PAID AMOUNT" />
  <ATTRIBUTE LABEL="PA PROJECT KEY" NAME="PA PROJECT KEY" />
  <a tribute label="pa task key" name="pa task key" />
<ATTRIBUTE LABEL="PERIOD KEY" NAME="PERIOD KEY" />
ATTRIBUTE LABEL="POSTED FLAG" NAME="POSTED FLAG" />
<ATTRIBUTE LABEL="PO CREATION DATE" NAME="PO_CREATED_DATE" />
SECONDITION OF THE PROOF OF TH
<ATTRIBUTE LABEL="PRODUCT KEY" NAME="PRODUCT KEY" />
ATTRIBUTE LABEL="RECURRING INVOICE FLAG" NAME="RECURRING INVOICE_FLAG" /
   <attribute label="sub-account key" name="sub_account_key" />
<ATTRIBUTE LABEL="TRANSLATED CURRENCY CODE"</p>
NAME="TRANSLATED CURRENCY CODE" />
SATTRIBUTE LABEL="VENDOR KEY" NAME="VENDOR KEY" />
/DIMENSION>
<MEASURE LABEL="ACCOUNTING (PRE-AP) LAG DAYS"</p>
 NAME="ACCOUNTING_LAG_DAYS" />
   <MEASURE LABEL="INVOICE LINE AMOUNT" NAME="INVOICE LINE AMOUNT" />
   <MEASURE LABEL="INVOICE LINE EXCHANGE RATE VARIANCE"</p>
 NAME="INVOICE LINE EXCH RATE VAR" />
   <MEASURE LABEL="INVOICE LINE PRICE VARIANCE"</p>
 NAME="INVOICE LINE PRICE VARIANCE" />
   <MEASURE LABEL="NUMBER OF INVOICE LINES" NAME="NUMBER INVOICE LINES" />
   <MEASURE LABEL="TRANSLATED CURRENCY AMOUNT"</p>
 NAME="TRANSLATED CURRENCY AMOUNT" />
   <MEASURE LABEL="UNPAID AMOUNT" NAME="UNPAID AMOUNT" />
   </MEASURES>
   </DP SCHEMA DOC>
```

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 101 of 103

FIG. 24





Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 103 of 103

FIG. 26

